

PP-2465

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ἈΤΛΑΣ ΟΥΡΑΝΙΟΣ,
The COELESTIAL ATLAS;

OR, A NEW

E P H E M E R I S

For the YEAR of our LORD 1788.

Being the

BISSEXTILE, or LEAP-YEAR.

Wherein are contained

The Heliocentrick and Geocentrick Places of the Planets,
the ECLIPSES of the Luminaries, and other remarkable PHÆNO-
MENA that will happen this Year.

Carefully computed

From the genuine TABLES of Dr. EDMUND HALLEY,
those of Professor MAYER, and other the latest and most correct
ASTRONOMICAL TABLES.

ALSO

A Compleat ALMANACK, containing the FEASTS and FASTS
of the Church of ENGLAND; the Times of the LUNATIONS;
the Rising and Setting of the Sun, Moon, and Planets, &c.

Adapted to the

Meridian and Latitude of the ancient and honourable
CITY of LONDON.

To which are added,

Several useful TABLES: As, a TABLE of the Sun's
semi-diurnal Arcs, by which the Times of the Sun's Rising and
Setting may be known by Inspection, on every Day in the Year, and
in any Part of GREAT-BRITAIN or IRELAND; a TIDE-TABLE,
and a very correct one of the Eclipses of JUPITER'S first Satellites;
a TABLE of the Sun's Right-Ascension; and TABLES of
the most remarkable fixed Stars, corrected from AMSTED'S
Catalogue; and, lastly, a correct TABLE of the Latitudes and Longi-
tudes of the most remarkable Places in the World.

By ROBERT WHITE,

Teacher of the Mathematicks.

Ὁς ἔγραυε διηγήσας δοξὰς θεῶν.

The THIRTY-NINTH IMPRESSION.

L O N D O N :

Printed for the Company of STATIONERS; and sold
by ROBERT HORSFIELD, at their Hall, in Ludgate-street.

[Price NINE-PENCE stitched.]

Ephemerides. K.

Chronological Notes for the Year 1788.

Golden Number	-	-	3	Septuagesima Sunday	Jan. 20
Cycle of the Sun	-	-	5	Shrove Sunday	Feb. 3
The Epact	-	-	22	Easter Day	Mar. 23
Dominical Letters	-	F E		Whit Sunday	May 11
Number of Direction	-	3		Trinity Sunday	May 18
Roman Indiction	-	-	6	Advent Sunday	Nov. 30

Astronomical CHARACTERS explained.

♈ Aries	♋ Cancer	♎ Libra	♏ Capricorn
♉ Taurus	♌ Leo	♍ Scorpio	♐ Aquarius
♊ Gemini	♍ Virgo	♏ Sagittary	♑ Pisces

♄ Saturn	☉ Sol (the Sun)	☾ Luna (the Moon)	☿ Tellus,
♃ Jupiter	♀ Venus	♊ Moon's N. Node	Terra (or
♂ Mars	☿ Mercury	♋ her S. Node	the Earth)

♄ Conjunction when Planets are in the same Sign, Deg. Min. &c.

* Sextile when 2 Signs dist. | Δ Trine when 4 Signs dist.

□ Quartile when 3 Signs dist. | ☿ Opposition when 6 Signs dist

Of the Four Quarters of the YEAR 1788.

	d	h	m
THE Spring Quarter begins March	19	10	3 aftern.
The Summer Quarter begins June	20	8	2 aftern.
The Autumnal Quarter begins September	22	9	42 morn.
The Winter Quarter begins December	21	7	14 aftern.

THE beautiful Planet VENUS will be an Evening Star 'till August the 8th; and after that Time she will be a Morning Star to the Year's End.

JUPITER will be an Evening Star 'till the 20th Day of June, at which Time he becomes a Morning Star, and so continues to the Year's End.

The NAMES of the Learned JUDGES of the LAW.

I. The Right Hon. Lord Thurlow, Lord High Chancellor.

Right Honourable Sir Lloyd Kenyon, Bart. Master of the Rolls.

II. In the } R. H. Wm. Earl Mansfield, L. C. J. Sir Nash Grose, Knt.
K. Bench. } Sir W. H. Ashurst, Knt. Francis Buller, Esq;

III. In the } R. H. Alex. Lord Loughborough, L. C. J. Sir Henry Gould, Knt.
C. Pleas. } Sir John Wilson, Knt. John Heath, Esq;

IV. In the } Sir James Eyre, Knt. L. C. B. Sir Alex. Thompson, Knt.
Exchequer } Sir Beaumont Hotham, Knt. Sir Richard Perryn, Knt.

Pepper Arden, Esq; Attor. General; Alex. M'Donald, Esq; Solic. General.

A TABLE of TERMS and Returns for the Year 1788.

Hilary Term begins Jan. 23, ends Feb. 12.

Returns or Effoign-days.

	Exc.	Ret.	Ap.	W. D.
In eight Days of St. Hilary, - - Jan. 20	21	22	23	Wedn.
In fifteen Days of St. Hilary - - - 27	28	29	30	Wedn.
On the Mor. of the Purif. of the Bl. V. M. Feb. 3	4	5	6	Wedn.
In eight Days of the Purif. of the Bl. V. M. 9	10	11	12	Tuesday

Easter Term begins April 9, ends May 5.

	Exc.	Ret.	Ap.	W. D.
In fifteen Days of Easter - - April 6	7	8	9	Wedn.
From Easter Day in three Weeks - - 13	14	15	16	Wedn.
From Easter Day in one Month - - 20	21	22	23	Wedn.
From Easter Day in five Weeks - - 27	28	29	30	Wedn.
On the Mor. of the Ascension of the Lord May 2	3	4	5	Monday

Trinity Term begins May 23, ends June 11.

	Exc.	Ret.	Ap.	W. D.
On the Morrow of the Holy Trinity, - May 19	20	21	23	Friday.
In eight Days of the Holy Trinity, - - 25	26	27	28	Wedn.
In fifteen Days of the Holy Trinity, - June 1	2	3	4	Wedn.
From the Day of the Holy Trin in 3 Weeks 8	9	10	11	Wedn.

Michaelmas Term begins Nov. 6, ends Nov. 28.

	Exc.	Ret.	Ap.	W. D.
On the Morrow of All Souls - - - Nov. 3	4	5	6	Thurs.
On the Morrow of St. Martin - - - 12	13	14	15	Satur.
In eight Days of St. Martin - - - 18	19	20	21	Friday.
In fifteen Days of St. Martin - - - 25	26	27	28	Friday.

N. B. No Sittings in Westminster-Hall on the Second of February, Ascension-day, and Midsummer-day.

The Exchequer opens eight Days before any Term begins, except Trinity, before which it opens but four Days.

Note, The first and last Days of every Term, are the first and last Days of Appearance.

BIRTH-DAYS of the ROYAL FAMILY.

KING GEORGE III. June 4, 1738	Prince Aug. Fred. Jan. 27, 1773
Prince of Wales, Aug. 12, 1762	Prince Adolph. Fred. Feb. 24, 1774
Prince Frederick, Aug. 16, 1763	Princess Mary, April 25, - 1776
Prince Wm. Henry, Aug. 21, 1765	Princess Sophia, Nov. 3, - 1777
Prs. Cha. Aug. Mat. Sept. 29, 1766	Princess Amelia, Aug. 7, - 1783
Prince Edward, Nov. 2, - 1767	Queen Charlotte, May 19, 1744
Prs. Augusta Sophia, Nov. 8, 1768	Prs. Augusta of Brun. Aug. 11, 1737
Prs. Elizabeth, May 22, - 1770	Duke of Gloucester, Nov. 25, 1743
Prince Ernest Augustus, June 5, 1771	Duke of Cumberland, Nov. 7, 1745

SOVEREIGNS OF EUROPE, their Accession, &c.

Kingdoms, &c.	To whom subject.	When born.	Began to reign.
England, &c.	George III.	June 4, 1738	Oct. 25, 1760
France	Lewis XVI.	Aug. 23, 1754	May 10, 1774
Russia	Catharine II.	May 2, 1729	July 9, 1762
Spain	Charles III.	Jan. 20, 1716	Aug. 10, 1759
Portugal	Mary	Dec. 7, 1734	Feb. 24, 1777
Prussia	Frederic IV.	Sept. 25, 1744	Aug. 17, 1786
Denmark & Norway	Christian VII.	Jan. 29, 1749	Jan. 14, 1766
Sweden	Gustavus III.	Jan. 24, 1746	Feb. 13, 1771
Germany	Joseph	Mar. 13, 1741	Aug. 18, 1765
Poland	Stanislaus III.	Jan. 17, 1732	Nov. 25, 1764
Holland	William V.	March 8, 1748	Oct. 11, 1751
Papedom	Pius VI.	Dec. 27, 1717	Feb. 18, 1775
Sardinia	Victor	June 26, 1726	Mar. 20, 1773
Ottoman Empire	Achmet IV.	Nov. 5, 1719	Jan. 21, 1774

The FULL WEIGHT of the Coins, with the LEAST WEIGHT allowed to pass of the Gold Coin.

Wt. allowed.		Full Wt.	SILVER.		Full Wt.
GOLD.	dwt. gr.	dwt. gr.		dwt. gr.	
Guinea, - -	5 8	5 9 $\frac{3}{4}$	A Crown, - -	19	8 $\frac{1}{2}$
Half Guinea, -	2 16	2 16 $\frac{1}{4}$	Half Crown, -	9	16 $\frac{1}{2}$
Quarter Guinea, 1	8	1 8 $\frac{1}{2}$	Shilling, - -	3	20 $\frac{1}{2}$
			Six Pence, - -	1	22 $\frac{1}{2}$

According to the above proportions it appears, that the value of a lb. of silver is 62 s. or 3 l. 2 s. and of a lb. of gold is 44 $\frac{1}{2}$ guineas, or 46 l. 14 s. 6 d. Also that the oz. of silver is 5 s. 2 d. and the oz. of gold 3 l. 17 s. 10 d. So that the value of the standard gold is 15 times that of the silver, and 1-14th more.

A TABLE of the **KINGS** and **QUEENS** of **ENGLAND**
since the **CONQUEST**.

Kings and Queens	Born A.D.	Began their Reign	Reigned Y. M. D.	Age	Rem. Deaths and Dethroned	Where buried
Will. Conq.	1027	1066 Oct. 14	20 10 26	60	Burft by Leap.	Caen, Norm
Will. Rufus	1057	1087 Sept. 9	12 10 24	43	Slain acciden- tally.	Winchester
Henry I.	1068	1100 Aug. 2	35 3 29	77		Reading
Stephen	1105	1135 Dec. 1	18 10 24	49		Feverham
Henry II.	1133	1154 Oct. 25	34 8 11	55		Fonteveraud
Richard I.	1156	1189 July 6	9 9 0	43	Slain with an Arrow.	Fonteveraud
John	1165	1199 April 6	17 6 13	50		Worcester
Henry III.	1207	1216 Oct. 19	56 0 28	65		Westminster
Edward I.	1239	1272 Nov. 16	34 7 21	67		Westminster
Edward II.	1284	1307 July 7	19 6 18	43		Gloucester
Edward III.	1312	1327 Jan. 25	50 4 27	65		Westminster
Richard II.	1366	1377 June 21	22 3 8	33	Dep. & murd.	Westminster
Henry IV.	1367	1399 Sept. 29	13 5 20	46		Canterbury
Henry V.	1389	1413 Mar. 20	9 5 11	33		Westminster
Henry VI.	1421	1422 Aug. 31	18 6 4	49	Dep. & murd.	Windsor
Edward IV.	1442	1461 Mar. 4	22 1 5	41		Windsor
Edward V.	1471	1483 April 9	0 2 15	12	Murder'd.	Not known
Richard III.	1443	1483 June 22	2 2 0	42	Slain in Battle.	Leicester
Henry VII.	1456	1485 Aug. 22	23 8 0	52		Westminster
Henry VIII.	1492	1509 April 22	37 9 6	55		Windsor
Edward VI.	1537	1547 Jan. 28	6 5 8	15		Westminster
Mary I.	1516	1553 July 6	5 4 11	42		Westminster
Elizabeth	1533	1558 Nov. 17	44 4 7	69		Westminster
James I.	1566	1603 Mar. 24	22 0 3	58		Westminster
Charles I.	1600	1625 Mar. 27	23 10 3	48		Windsor
Charles II.	1630	1649 Jan. 30	36 0 7	54		Westminster
James II.	1633	1685 Feb. 6	4 0 7	67	Abdicated.	St. Germain
Mary II.	1662	1689 Feb. 13	5 10 15	32		Westminster
William III.	1650	1689 Feb. 13	13 0 23	52		Westminster
Anne	1665	1702 Mar. 8	12 4 24	49		Westminster
George I.	1660	1714 Aug. 1	12 10 10	67		Hanover
George II.	1683	1727 June 11	33 4 14	77		Westminster
George III.	1738	1760 Oct. 25	Crowned Sept. 22, 1761.			

Above you view the Rise and Fall of Kings,
Whose Fate sometimes a useful Lesson brings.
Well if all Men could profit from the past!
Each know his Duty, each excel the last,
And justly execute his stated Task.

A TABLE of the most Reverend, Right Reverend, and Reverend, the ARCHBISHOPS, BISHOPS and DEANS, exercising Ecclesiastical Jurisdiction, 1788.

BISHOPS.	Sees.	Date.	Succeeded.	DEANS.
Dr. John Moore	{ Bangor	1775	Ewer deceased	
Arch-Bishop	{ Canterb. A. B.	1783	Cornwallis dec.	Dr. Horne
Dr. Will. Markham	{ Chester	1771	Ketne translat.	
Arch-Bishop	{ York A. B.	1777	Drummond de.	Dr. J. Fountayne
	{ St. David's	1766	Squire deceas.	
Dr. Robert Lowth	{ Oxford	1766	Hume transi.	
	{ London	1777	Terrick dec.	Bishop Pretyma
	{ Lincoln	1779	Green dec.	
Dr. Tho. Thurlow	{ Durh. m.	1787	Everton dec.	Hon. W. Digby
	{ Litch & Cov.	1771	Egerton transi.	
Hon. Dr. B. North	{ Worcester	1774	Johnson deceas.	
	{ Winchester	1781	Thomas deceas.	Dr. Ogle
Lord J. Beaucherk	Hereford	1746	Egerton deceas.	Dr. Wetherell
Sir W. Ashburnham	Chichester	1754	Mawson transi.	Dr. Harward
Dr. Charles Moïs	{ St. David's	1766	Lowth transi.	
	{ Bath & Wells	1774	Willes deceased	Ld. Fr. Seymour
	{ Landaff	1769	Ewer transi.	
Dr. J. Shipley	{ St. Asaph	1769	Newcome dec.	Mr. W. D. Shipley
Dr. Edmund Law	Carlisle	1769	Lyttelton dec.	Dr. Ekins
	{ Landaff	1769	Shipley transi.	
Dr. S. Barrington	{ Salisbury	1782	Hume dec.	Dr. Noel
Dr. John Hinchliffe	Peterborough	1769	Lamb dec.	Dr. Ch. Tarrant
	{ St. David's	1774	Moïs transi.	
H. Dr. James Yorke	{ Gloucester	1779	Warburton dec.	
	{ Ely	1781	Keene deceased	Dr. Cooke
Dr. John Thomas	Rochester	1774	Pearce dec.	Dr. Dampier
	{ Litch. & Cov.	1775	B. North tr.	
Dr. Richard Hurd	{ Worcester	1781	B. North tr.	Dr. St. John
Dr. Beilby Porteus	Chester	1776	Markham tran.	Dr. Cotton
Dr. John Butler	Oxford	1777	Lowth transi.	Dr. Jackson
Dr. John Ross	Exeter	1778	Keppel dec.	Dr. Buller
	{ St. David's	1779	Yorke transi.	
Dr. John Warren	{ Bangor	1783	Moore transi.	Dr. Tho. Lloyd
Dr. J. Cornwallis	{ Litch & Cov.	1781	Hurd transi.	Dr. Proby
Dr. Samuel Hallifax	Gloucester	1781	Yorke transi.	Dr. Josiah Tucker
	{ Bristol	1782	Newton dec.	
Dr. Lewis Bagot	{ Norwich	1783	Yonge dec.	Dr. P. Lloyd
Dr. Richard Watfon	Landaff	1782	Barrington tr.	Dr. Adams, A.D.
Dr. Edward Smalwell	St. David's	1783	Warren transi.	Mr. Wollaston, P.
Dr. Ch. ft. Wilson	Bristol	1783	Bagot transi.	Dr. Hallam
Dr. W. Pretyma	Lincoln	1787	Thurlow tran.	Dr. Kaye
	W. minster	1768		Bishop Thomas
Dr. Claud Crigan	Sodor & Man	1784	Mafon dec.	
	Windior	1778		Hon. Dr. Harley

A General INTEREST TABLE,

by which the Interest of any Sum, at any Rate, and for any Time, may be readily found.

Days	3 per Cent.			$3\frac{1}{2}$ per Cent.			4 per Cent.			$4\frac{1}{2}$ per Cent.			5 per Cent.		
	l.	s.	d. q.	l.	s.	d. q.	l.	s.	d. q.	l.	s.	d. q.	l.	s.	d. q.
1			1 3			2 1			2 2			3 0			3 0
2			3 3			4 2			5 1			6 0			6 2
3			5 3			6 3			7 3			8 3			9 3
4			7 3			9 0			10 2			11 3			1 1 0
5			9 3			11 2			1 1 1			1 2 3			1 4 1
6			11 3			1 1 3			1 3 3			1 5 3			1 7 2
7			1 1 3			1 4 0			1 6 1			1 8 3			1 11 0
8			1 3 3			1 6 4			1 9 0			1 11 3			2 2 1
9			1 5 3			1 8 2			1 11 2			2 2 2			2 5 2
10			1 7 2			1 11 0			2 2 1			2 5 2			2 8 3
20			3 3 1			3 10 0			4 4 2			4 11 1			5 5 3
30			4 11 0			5 9 0			6 6 3			7 4 3			8 2 1
40			6 6 3			7 8 0			8 9 0			9 10 1			10 11 2
50			8 2 2			9 7 0			10 11 2			12 3 3			13 8 1
60			9 10 1			11 6 0			13 1 3			14 9 2			16 5 1
70			11 6 0			13 5 0			15 4 0			17 3 1			19 2 0
80			13 1 3			15 4 0			17 6 1			19 8 3			1 1 11 0
90			14 9 2			17 3 0			19 8 2			21 2 2			1 4 7 3
100			16 5 1			19 2 0			1 11 0			1 4 8 0			1 7 4 3
200			1 12 10 2			1 18 4 1			2 3 10 0			2 9 3 3			2 14 9 2
300			2 9 3 3			2 17 6 1			3 5 9 0			3 13 11 1			3 14 2 2 1

N. B. This Table contains the interest of 100l. for all the several days in the 1st column, and at the several rates of 3, $3\frac{1}{2}$, 4, $4\frac{1}{2}$, and 5 per cent. in the other 5 columns.

To find the interest of 100l. for any other time, as 1 year and 278 days, at $4\frac{1}{2}$ per cent. Take the sums for the several days here annexed.

The interest for 1 year	4	10	0 0
Against 200 days is	-	2	9 3 3
70 days	-	0	17 3 1
8 days	-	0	1 11 3
Interest required	-	7	12 6 3

For any other Sum than 100l. First find for 100l. as above, and take it so many times or parts as the sum is of 100l. Thus, to find for 355l. at $4\frac{1}{2}$, for 1 year and 278 days,

First, 3 times the above sum, for 300l. is	-	23	15 8 1
$\frac{1}{2}$ (for 50l.) is	-	3	19 3 1
$\frac{1}{10}$ of this (for 5l.) is	-	0	7 11 0
So for 355 it is	-	28	2 10 2

When the interest is required for any other rate than those in the table, it may easily be made out from them. So $\frac{1}{2}$ of 5 is $2\frac{1}{2}$, $\frac{1}{2}$ of 4 is 2, $\frac{1}{2}$ of 3 is $1\frac{1}{2}$, $\frac{1}{3}$ of 3 is 1, 1-6th of 3 is $\frac{1}{2}$, and 1-12th of 3 is $\frac{1}{4}$. And so, by parts, or by adding or subtracting, any rate may be made out.

The LUNATIONS.

New Moon the 8th day, at 54 minutes past 11 morning.

First quarter the 16th day, at 57 minutes past 9 morning.

Full Moon the 23d day, at 59 minutes past 1 morning.

Last quarter the 30th day, at 15 minutes past 1 morning.

M D	Sundays & other remark. days	☉ rises	☉ sets	☉'s declin.	☿'s declin.	☿ rises & sets	☿ south	Clock bef. ☉	
1	Circumcision	8 5	3 55	23 s 1	13 o 43	1 m 19	6 m 25	4 o	
2		8 4	3 56	22 56	17 32	2 30	7 11	4 28	
3		8 4	3 56	22 50	20 31	3 39	7 58	4 56	
4		8 3	3 57	22 44	22 33	4 42	8 46	5 24	
5	Old Christ. Day	8 2	3 58	22 38	23 34	5 40	9 34	5 51	
6	Epiph.	8 1	3 59	22 31	23 31	6 32	10 23	6 18	
7	Plow Monday	8 o	4 o	22 23	22 24	7 15	11 12	6 44	
8	Lucian	8 o	4 o	22 15	20 18	☿ sets	11 59	7 10	
9		7 59	4 1	22 7	17 20	5 a 23	o a 45	7 35	
10		7 58	4 2	21 58	13 39	6 30	1 29	7 59	
11		7 57	4 3	21 49	9 23	7 39	2 12	8 24	
12	Old N. Yr's Day	7 56	4 4	21 39	4 s 42	8 47	2 54	8 47	
13	S. of Ep. Hil. Com. T. b.	7 55	4 5	21 29	o n 13	9 57	3 36	9 10	
14	Oxf. Term beg.	7 53	4 7	21 19	5 12	11 8	4 19	9 32	
15		7 52	4 8	21 8	10 6	morn.	5 5	9 53	
16		7 51	4 9	20 57	14 39	o 22	5 54	10 14	
17	O. T welfth Day	7 50	4 10	20 45	18 36	1 39	6 47	10 34	
18	Q. Ch. b. d. k.	Prisca	4 12	20 33	21 36	2 54	7 44	10 53	
19		7 47	4 13	20 20	23 15	4 10	8 45	11 12	
20	Septuages.	Fabian	4 14	20 8	23 30	5 16	9 48	11 30	
21	Agnes	7 44	4 16	19 54	21 59	6 11	10 51	11 47	
22	Vincent	7 43	4 17	19 41	18 54	6 53	11 52	12 3	
23	Hil. Term beg.	7 41	4 19	19 27	14 32	☿ rises	morn	12 18	
24		7 40	4 20	19 13	9 19	6 a 50	o 49	12 33	
25	Conv. of S. Paul	7 38	4 22	18 58	3 n 4	8 13	1 42	12 47	
26		7 37	4 23	18 43	2 s 0	9 34	2 33	13 o	
27	Sexages. Pr. Aug. Fr. b.	7 36	4 25	18 28	7 23	10 50	3 22	13 12	
28		7 34	4 26	18 12	12 14	morn.	4 9	13 23	
29		7 32	4 28	17 56	16 22	o 5	4 57	13 34	
30	K. Cha. mart.	7 31	4 2	17 40	19 4	1 10	5 44	13 44	
31		7 29	4 31	17 23	21 50	2 25	6 33	13 53	
Days	Day increaf.	Length of Day.	Helioc. long. ♀	Helioc. long. ☿	Helioc. long. ♂	Helioc. long. ☿	Helioc. long. ♀	Helioc. long. ♂	h sets.
1	o 8	7 50	29 52	23 11	14 25	10 25	24 12	17 8	7 a 56
7	o 16	8 o 0	☿	23 4	17 11	16 50	3 42	6 m 24	7 32
13	o 28	8 12	o 15	24 13	19 57	23 6	13 13	24 o	7 10
19	o 44	8 28	o 27	24 44	22 42	29 12	42 44	10 f 39	6 49
25	1 o	8 44	o 38	25 14	25 16	5 18	2 17	27 12	6 27

1788.

January.

9

Days	Day lig. begins	Day lig. ends	Durat. twilig.	Pl. D's node	h's latitude	u's latitude	♂'s latitude	♀'s latitude	♂'s latitude
1	5 59	6 1	2 10	25 f 19	1 s 27	0 s 26	3 n 55	1 s 27	1 n 16
7	5 56	6 4	2 9	25 0	1 27	0 25	4 4	1 33	0 25
13	5 52	6 8	2 7	24 41	1 26	0 24	4 7	1 35	0 s 22
19	5 46	6 14	2 5	24 22	1 26	0 23	4 8	1 36	1 2
25	5 39	6 21	2 3	24 3	1 26	0 22	4 5	1 33	1 33

Days	☉'s longitude	☽'s long.	☽'s latitude	h's long.	u's long.	♂'s long.	♀'s long.	♂'s long.
1	10 51 26	24 8	4 s 40	25 48	19 11 6	19 54	19 57	18 f 57
2	11 52 37	6 m 35	4 2	25 54	18 58	19 30	0 22	20 11
3	12 53 49	18 46	3 13	26 0	18 51	19 6	1 37	21 27
4	13 55 1	0 f 46	2 16	26 6	18 44	18 42	2 52	22 44
5	14 56 13	12 39	1 14	26 12	18 37	18 18	4 7	24 3
F	15 57 25	24 27	0 10	26 18	18 31	17 54	5 22	25 23
7	16 58 36	6 f 14	0 n 55	26 24	18 25	17 30	6 37	26 44
8	17 59 48	18 2	1 58	26 30	18 19	17 6	7 52	28 6
9	19 0 59	29 54	2 55	26 37	18 13	16 42	9 7	29 29
10	20 2 10	11 50	3 46	26 43	18 7	16 18	10 22	0 f 58
11	21 3 20	23 53	4 26	26 49	18 1	15 54	11 37	2 19
12	22 4 30	6 X 5	4 55	26 56	17 55	15 31	12 52	3 45
F	23 5 38	18 28	5 11	27 2	17 50	15 8	14 7	5 12
14	24 6 46	1 v 5	5 12	27 9	17 45	14 45	15 22	6 39
15	25 7 53	13 59	4 58	27 15	17 40	14 22	16 37	8 7
16	26 8 59	27 12	4 28	27 22	17 36	14 0	17 52	9 35
17	27 10 4	10 47	3 42	27 29	17 31	13 37	19 7	11 4
18	28 11 8	24 45	2 42	27 35	17 26	13 18	20 22	12 34
19	29 12 11	9 II 7	1 30	27 42	17 22	12 58	21 37	14 5
F	0 13 13	23 50	0 11	27 49	17 18	12 38	22 52	15 36
21	1 14 13	8 51	1 s 11	27 55	17 14	12 19	24 7	17 8
22	2 15 13	24 0	2 28	28 2	17 10	12 0	25 21	18 41
23	3 16 12	9 Ω 10	3 35	28 9	17 6	11 42	26 36	20 14
24	4 17 11	24 10	4 25	28 16	17 2	11 25	27 50	21 48
25	5 18 8	8 m 50	4 58	28 23	16 50	11 8	29 5	23 22
26	6 19 4	23 6	5 10	28 29	16 56	10 52	0 X 20	24 57
F	7 20 0	6 52	5 4	28 36	16 53	10 37	1 34	26 33
28	8 20 55	20 10	4 42	28 43	16 51	10 23	2 49	28 9
29	9 21 49	3 m 0	4 6	28 50	16 48	10 10	4 3	29 46
30	10 22 43	15 28	3 19	29 57	16 46	9 53	5 18	1 24
31	11 23 35	27 38	2 24	29 4	16 43	9 41	6 32	3 2

Days	♂'s sets	♀'s rises	♀'s sets	♂'s rises	h's declin.	u's declin.	♂'s declin.	♀'s declin.	♂'s declin.
1	6 m 40	4 a 3	5 a 23	6 m 22	14 s 13	22 n 35	25 n 52	21 s 47	21 s 45
7	6 10	3 22	5 38	6 39	14 5	22 33	26 21	20 8	23 1
13	5 42	sets	5 55	6 55	13 52	22 31	26 42	18 8	23 44
19	5 13	7 m 40	6 13	7 8	13 38	22 29	26 57	15 49	23 45
25	4 46	7 8	6 31	7 18	13 24	22 28	27 4	13 16	22 50

10 February hath XXIX Days. White.

The LUNATIONS.

New Moon the 7th day, at 53 minutes past 6 morning.

First quarter the 14th day, at 56 minutes past 8 night.

Full Moon the 21st day, at 49 minutes past 12 noon.

Last quarter the 28th day, at 16 minutes past 8 night.

M	Sundays & other	☉	☉	☉'s	☉'s	☉rises	☉	Clock
D	remark. days	rises	sets	declin.	declin.	& sets	south	bef. ☉
1		7 27	4 33	17 3 6	23 5 18	3 m 27	7 m 22	14 1
2	Purif. Candlem.	7 25	4 35	16 49	23 32	4 21	8 11	14 9
3	Quinq. Shrove S.	Blase	4 36	16 31	22 43	5 6	9 0	14 15
4		7 22	4 38	16 13	20 54	5 42	9 48	14 21
5	Shrove Tu.	Agatha	4 40	15 55	18 11	6 13	10 35	14 26
6	Alt Wednesd Jay	7 19	4 41	15 37	14 41	6 36	11 20	14 30
7		7 17	4 43	15 18	10 33	sets	0 2 4	14 34
8		7 15	4 45	14 59	5 57	6 30	0 47	14 37
9		7 13	4 47	14 40	1 5 4	7 42	1 30	14 38
10	Quadr. 1 S. in L.	7 11	4 49	14 21	3 n 56	8 54	2 14	14 39
11		7 9	4 51	14 1	8 50	10 6	2 59	14 40
12	Hil. Term ends	7 8	4 52	13 41	13 27	11 20	3 46	14 39
13	Ember W.	7 6	4 54	13 21	17 28	morn	4 37	14 38
14	Valentine	7 4	4 56	13 1	20 41	0 36	5 32	14 35
15		7 2	4 58	12 4	22 45	1 49	6 29	14 32
16		7 0	5 0	12 20	23 27	2 57	7 30	14 29
17	2 S. in Lent	6 58	5 2	11 59	22 38	3 57	8 31	14 24
18		6 56	5 4	11 38	20 16	4 44	9 31	14 19
19		6 54	5 6	11 16	16 33	5 21	10 29	14 13
20		6 52	5 8	10 55	11 46	5 51	11 24	14 7
21		6 51	5 9	10 33	6 20	rises	morn	14 0
22		6 4	5 11	10 11	0 n 38	7 a 7	0 17	13 52
23		6 47	5 13	9 50	4 58	8 23	1 8	13 43
24	3 S. in L. St. Mat.	6 45	5 15	9 27	10 9	9 41	1 57	13 34
25	thias, Pr. A. F. b.	6 43	5 17	9 4	14 41	10 56	2 47	13 25
26		6 41	5 19	8 43	18 23	morn	3 36	13 15
27		6 39	5 2	8 20	21 6	0 8	4 26	13 4
28		6 37	5 23	7 58	22 46	1 15	5 16	12 52
29		6 35	5 25	7 35	23 21	2 13	6 6	12 41
Days	Day	Length	Helioc.	Helioc.	Helioc.	Helioc.	Helioc.	Helioc.
	increas.	of day	long. ♀	long. ♂	long. ♀	long. ♂	long. ♀	long. ♂
1	1 24	9 8	0 55	15 11 50	28 26 37	12 24	13 26	17 23
7	1 45	9 26	1	26 21	19 19	18 29	23 0	6 23
13	2 7	9 49	1 14	26 52	4 1	24 33	2 8 35	28 4
19	2 29	10 10	1 25	27 23	6 41	0 26	12 11	23 40
25	2 51	10 20	1 37	27 53	0 21	6 38	21 48	24 20

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February.

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Day	Daylig. begins	Daylig. ends	Durat. twilig.	Pl. D's node	h's latitude	u's latitude	δ's latitude	♀'s latitude	♂'s latitude
1	5 30	6 30	2 0	23 40	1 26	0 20	3 n 58	1 s 27	1 s 58
7	5 21	6 3	1 59	23 21	1 27	0 19	3 50	1 20	2 5
13	5 12	6 48	1 57	23 2	1 27	0 18	3 41	1 9	1 56
19	5 0	7 0	1 57	22 43	1 27	0 17	3 32	0 57	1 30
25	4 50	7 10	1 56	22 24	1 27	0 16	3 22	0 42	0 41
Days	☉'s longitude	☽'s long.	☿'s latitude	h's long.	u's long.	δ's long.	♀'s long.	♂'s long.	
1	12 24 27	9 7 35	1 s 24	29 11	16 11 41	9 33 33	7 46	4 41	
2	13 25 18	21 24	0 21	29 18	16 39	9 13 9	1 6	1 1	
F	14 26 8	3 10 9	0 n 43	29 25	16 38	9 13 10	15 8	2	
4	15 26 57	14 56	1 44	29 32	16 37	9 4 11	30 9	43	
5	16 27 45	26 47	2 42	29 40	16 36	8 56 12	44 11	26	
6	17 28 32	8 45	3 32	29 47	16 35	8 48 13	58 13	9	
7	18 29 17	20 52	4 14	29 54	16 34	8 41 15	12 14	53	
8	19 30 1	3 8	4 44	0 1	16 34	8 35 16	27 16	38	
9	20 30 44	15 35	5 1	0 8	16 33	8 30 17	41 18	43	
F	21 31 25	28 12	5 4	0 16	16 D 33	8 26 18	55 20	9	
11	22 32 4	11 1	4 52	0 23	16 33	8 22 20	9 21	56	
12	23 32 41	24 3	4 25	0 30	16 34	8 19 21	23 23	44	
13	24 33 16	7 8 19	3 43	0 38	16 35	8 17 22	37 25	33	
14	25 33 50	20 50	2 48	0 45	16 36	8 16 23	51 27	22	
15	26 34 22	4 13 8	1 42	0 52	16 37	8 15 25	5 29	12	
16	27 34 51	18 43	0 28	1 0	16 38	8 D 15 26	18 1 3		
F	28 35 19	3 5	0 48	1 7	16 39	8 16 27	32 2	54	
18	29 35 45	17 42	2 3	1 14	16 40	8 18 28	46 4	46	
19	30 36 9	2 30	3 10	1 22	16 42	8 22 29	59 6	39	
20	1 36 30	17 21	4 4	1 29	16 44	8 26 1 13	8 32		
21	2 36 51	2 12 9	4 42	1 36	16 47	8 30 2	26 10	26	
22	3 37 10	16 4	5 0	1 43	16 49	8 35 3	40 12	19	
23	4 37 27	0 58	5 0	1 51	16 52	8 40 4	53 14	12	
F	5 37 42	14 48	4 41	1 58	16 54	8 46 6	16 4		
25	6 37 56	28 10	4 8	2 5	16 5	8 42 7	20 17	56	
26	7 38 8	11 0	3 22	2 12	17 0	8 59 8	34 19	47	
27	8 38 19	23 37	2 28	2 19	17 4	9 7 9	47 21	36	
28	9 38 28	5 50	1 29	2 26	17 7	9 16 11	0 23	24	
29	10 38 36	17 48	0 26	2 33	17 11	9 25 12	13 25	9	
Days	u's sets	δ's sets	♀'s sets	♂'s sets	h's declin.	u's declin.	δ's declin.	♀'s declin.	♂'s declin.
1	4 m 15	6 m 31	6 a 52	7 m 22	13 s 7	22 n 28	27 n 5	10 a 1	21 s 1
7	3 51	6 2	7 12	7 23	12 52	22 29 27	1 7	4 18	23
13	3 27	5 36	7 30	sets	12 37	22 30 26	54 4	0 14	51
19	3 5	5 12	7 50	5 a 35	12 31	22 31 26	44 0	53 10	28
25	2 44	4 49	8 9	6 19	12 6	22 34 26	32 2 n 16	5 24	

The LUNATIONS.

New Moon the 7th day, at 33 minutes past 11 night.

First quarter the 15th day, at 19 minutes past 5 morning.

Full Moon the 21st day, at 0 minutes past 12 night.

Last quarter the 29th day, at 25 minutes past 4 afternoon.

M	Sundays & other D remark. days	☉ rises	☉ sets	☉'s declin.	☾'s declin.	☾ & sets	☾ South	Clock bef. ☉		
1	David	6 33	5 27	7 s 12	22 s 51	3 m 2	6 m 56	12 28		
2	4 or Midlent S	Cha	5 29	6 49	21 21	3 42	7 45	12 16		
3		6 29	5 31	6 26	18 56	4 15	8 32	12 2		
4		6 27	5 33	6 3	15 42	4 40	9 18	11 49		
5		6 25	5 35	5 40	11 47	5 2	10 3	11 35		
6		6 23	5 37	5 17	7 20	5 24	10 47	11 20		
7	Perpetua	6 21	5 39	4 53	2 s 31	sets	11 31	11 5		
8		6 19	5 41	4 30	2 n 30	6 a 43	0 a 15	10 50		
9	5 Sund. in Lent	6 17	5 43	4 6	7 29	7 57	1 0	10 35		
10		6 15	5 45	3 43	12 12	9 13	1 48	10 19		
11		6 13	5 47	3 19	16 24	10 20	2 39	10 2		
12	Gregory	6 11	5 49	2 56	19 48	11 44	3 33	9 46		
13		6 9	5 51	2 32	22 8	morn	4 30	9 29		
14	Carn. Term ends	6 7	5 53	2 8	23 9	0 55	5 29	9 12		
15	Ost. Term ends	6 5	5 55	1 45	22 45	1 56	6 28	8 54		
16	Palm Sunday	6 3	5 57	1 21	20 53	2 44	7 26	8 37		
17	St. Patrick	6 1	5 59	0 57	17 42	3 23	8 24	8 19		
18	Edm. K. W. S.	5 59	6 1	0 34	13 26	3 56	9 19	8 1		
19		5 57	6 3	0 1	8 24	4 23	10 11	7 42		
20	Maundy Th.	5 55	6 5	0 n 14	2 n 56	4 45	11 2	7 24		
21	Good Friday	Bened	6 7	0 37	2 s 37	rises	11 52	7 6		
22		5 51	6 9	1 1	7 56	7 a 22	morn	6 47		
23	Easter Day	5 49	6 11	1 25	12 45	8 39	0 42	6 28		
24	Easter Monday	5 47	6 13	1 48	16 49	9 55	1 32	6 10		
25	East. Tu. Ann.	5 45	6 15	2 12	19 56	11 4	2 23	5 51		
26	[or Lady D.	5 43	6 17	2 35	22 1	morn	3 14	5 32		
27		5 41	6 19	2 59	23 0	0 7	4 5	5 3		
28		5 39	6 21	3 22	22 52	1 0	4 55	4 55		
29		5 37	6 23	3 45	21 43	1 44	5 44	4 36		
30	Low Sunday	5 35	6 24	4 5	19 35	2 21	6 33	4 18		
31		5 34	6 26	4 32	16 39	2 50	7 20	3 59		
Days	Day increas.	Length of day	Helioc. long. ♀	Helioc. long. ♀	Helioc. long. ♂	Helioc. long. ☉	Helioc. long. ♀	Helioc. long. ♂	h rises	
1	3 11	10 55	1 47	18 11	19 34	11 39	29 8	50	23 8 47	6 m 25
7	3 35	11 19	1 58	18 50	4 13	17 39	9 11	29	1 28	6 5
13	3 59	11 43	2 10	19 20	16 52	23 38	19 10	7 8	9	5 45
19	4 23	12 7	2 21	19 51	19 30	29 35	28 51	7 13	37	5 25
25	4 47	12 31	2 33	0 21	22 8	5 31	8 34	2 47	5	4

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March.

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Days	Day lig. begins	Day lig. ends	Durat. twilig.	Pl. D's node	h's latitude	u's latitude	δ's latitude	♀'s latitude	♂'s latitude
1	4 43	7 17	1 55	22 ♄ 8	1 s 28	0 s 15	3 n 14	0 s 28	0 n 16
7	4 30	7 30	1 16	21 ♄ 49	1 s 28	0 14	3 15	0 10	1 36
13	4 17	7 43	1 57	21 30	1 s 29	0 13	2 56	0 n 9	2 49
19	4 4	7 56	1 58	21 11	1 s 29	0 12	2 47	0 29	3 28
25	3 50	8 10	2 0	20 52	1 30	0 11	2 38	0 49	3 8
Days	☉'s longitude		D's long.	D's latitude	h's long.	u's long.	δ's long.	♀'s long.	♂'s long.
1	♌ 11	38 42	29 ♄ 38	0 n 36	2 ♌ 41	17 11 14	9 35	13 ♌ 26	26 ♌ 52
E	12	38 46	11 ♌ 24	1 37	2 48	17 18	9 45	14 39	28 32
3	13	38 49	23 13	2 34	2 55	17 22	9 56	15 52	0 ♌ 7
4	14	38 50	5 ♌ 8	3 24	3 2	17 26	10 8	17 5	1 38
5	15	38 50	17 13	4 6	3 10	17 31	10 20	18 18	3 4
6	16	38 48	29 30	4 37	3 17	17 35	10 33	19 31	4 25
7	17	38 44	12 ♌ 1	4 56	3 24	17 40	10 45	20 43	5 42
8	18	38 38	24 46	5 0	3 31	17 45	10 58	21 56	6 51
E	19	38 30	7 ♌ 43	4 48	3 38	17 50	11 12	23 8	7 53
10	20	38 20	20 53	4 22	3 45	17 56	11 26	24 21	8 48
11	21	38 8	4 ♌ 14	3 41	3 53	18 1	11 41	25 33	9 35
12	22	37 54	17 45	2 46	4 0	18 7	11 57	26 45	10 14
13	23	37 37	1 11 25	1 42	4 7	18 13	12 13	27 57	10 46
14	24	37 18	15 15	0 31	4 14	18 19	12 29	29 9	11 9
15	25	36 56	29 14	0 s 43	4 21	18 26	12 46	0 ♌ 21	11 24
E	26	36 32	13 ♌ 28	1 55	4 28	18 32	13 3	1 33	11 31
17	27	36 6	27 40	3 1	4 35	18 39	13 21	2 45	11 R 29
18	28	35 37	12 ♌ 2	3 5	4 42	18 45	13 39	3 57	11 19
19	29	35 16	26 27	4 35	4 49	18 52	13 57	5 9	11 2
20	♌ 0	34 33	10 ♌ 49	4 57	4 56	18 59	14 15	6 20	10 38
21	1	33 58	25 2	5 0	5 3	19 6	14 34	7 32	10 8
22	2	33 21	9 0	4 45	5 9	19 13	14 53	8 43	9 32
E	3	32 41	22 39	4 14	5 16	19 21	15 13	9 55	8 51
24	4	31 59	5 ♌ 56	3 30	5 23	19 28	15 34	11 6	8 6
25	5	31 16	18 49	2 36	5 29	19 36	15 55	12 17	7 19
26	6	30 31	1 ♌ 22	1 36	5 36	19 44	16 16	13 28	6 39
27	7	29 44	13 36	0 32	5 42	19 52	16 37	14 39	5 39
28	8	28 55	25 37	0 n 31	5 49	20 0	16 59	15 50	4 48
29	9	28 5	7 ♌ 29	1 33	5 55	20 8	17 21	17 1	3 59
E	10	27 13	19 17	2 31	6 2	20 16	17 43	18 12	3 12
31	11	26 19	1 ♌ 8	3 22	6 8	20 24	18 5	19 23	2 28
Days	u's sets	δ's sets	♀'s sets	♂'s sets	h's declin.	u's declin.	δ's declin.	♀'s declin.	♂'s declin.
1	2 m 25	4 m 31	8 a 26	6 a 55	11 s 54	22 n 36	26 n 21	4 n 53	1 s 0
7	2 5	4 12	8 46	7 27	11 38	22 40	26 6	7 56	3 45
13	1 46	3 54	9 6	7 37	11 23	22 44	25 49	10 54	6 52
19	1 27	3 37	9 27	7 19	11 9	22 48	25 3	13 43	7 34
25	1 10	3 21	9 48	6 35	10 55	22 52	25 8	16 20	5 47

The LUNATIONS.

New Moon the 6th day, at 17 minutes past 1 afternoon,

First quarter the 13th day, at 52 minutes past 11 morning,

Full Moon the 20th day, at noon,

Last quarter the 28th day, at 39 minutes past 11 morning.

M D	Sundays & other remark. days	☉ rises	☉ sets	☉'s declin.	☽'s declin.	☽ rises & sets	☽ South	Clock bef. ☉	
1		5 32	6 28	4 55	13 5	3 13	8 m 4	3 41	
2	Ox. & Ca. T. beg.	5 30	6 30	5 18	8 46	3 35	8 40	3 23	
3	Richard	5 28	6 32	5 41	4 6	3 54	9 33	3 5	
4	St. Ambrose	5 26	6 34	6 4	0 n 50	4 13	10 17	2 47	
5	Old Lady day	5 24	6 36	6 26	5 50	4 30	11 2	2 29	
6	1st S. aft. Easter	5 22	6 38	6 49	10 41	sets	11 50	2 12	
7		5 20	6 40	7 11	15 7	8 22	0 41	1 55	
8		5 18	6 42	7 34	18 49	9 40	1 35	1 38	
9	Easter T. beg.	5 16	6 44	7 56	21 28	10 52	2 32	1 21	
10		5 14	6 46	8 18	22 40	11 57	3 31	1 5	
11		5 12	6 48	8 40	22 44	morn	4 31	0 49	
12		5 10	6 50	9 21	11 0	5 50	5 30	0 33	
13	2nd S. aft. Easter	5 8	6 52	9 24	18 20	1 33	6 27	0 17	
14		5 6	6 54	9 45	14 23	2 6	7 21	0 2	
15		5 4	6 55	10 6	9 40	2 34	8 13	0 13	
16		5 3	6 57	10 28	4 n 28	2 57	9 3	0 28	
17		5 1	6 59	10 49	0 54	3 19	9 52	0 42	
18		4 59	7 1	11 9	6 11	3 39	10 40	0 56	
19	Alphege	4 57	7 3	11 30	11 4	4 0	11 29	1 9	
20	3rd S. aft. Easter	4 55	7 5	11 51	15 21	rises	morn	1 22	
21		4 53	7 7	12 11	18 48	8 53	0 20	1 35	
22		4 51	7 9	12 31	21 15	9 58	1 11	1 47	
23	St. George	4 50	7 10	12 51	22 36	10 56	2 2	1 59	
24		4 48	7 12	13 10	22 51	11 44	2 53	2 10	
25	St. Mark. Pra. Ma. b.		7 14	13 30	22 0	morn	3 43	2 21	
26		4 44	7 16	13 49	20 12	0 24	4 32	2 31	
27	1st Rogation S.	4 42	7 18	14 8	17 31	0 55	5 19	2 41	
28		4 40	7 20	14 27	14 7	1 22	6 5	2 50	
29		4 39	7 21	14 45	10 8	1 43	6 49	2 58	
30		4 37	7 23	15 4	5 41	2 2	7 32	3 6	
Days	Day increas.	Length of day	Helioc. long. ♀	Helioc. long. ☿	Helioc. long. ♂	Helioc. long. ☾	Helioc. long. ♀	Helioc. long. ☿	h rises
1	5 15	12 59	2 46	0 57	25 12	12 25	19 54	27 12	4 m 40
7	5 39	13 23	2 58	1 27	27 49	18 19	29 39	15 m 29	4 20
13	6 1	13 45	3 9	1 58	0 m 26	24 12	9 24	2 28	3 59
19	6 23	14 7	3 21	2 28	3 3	0 3	19 9	18 57	3 38
25	6 45	14 29	3 32	2 59	5 41	5 53	28 55	5 44	3 16

Days	Day lig. begins	Day lig. ends	Durat. twilig.	Pl. D's node	h's latitude	u's latitude	♂'s latitude	♀'s latitude	♂'s latitude
1	3 33	8 27	2 3	20 f 30	1 s 31	0 s 10	2 n 29	1 n 13	1 n 38
7	3 17	8 43	2 8	20 11	1 32	0 10	2 22	1 33	0 2
13	3 2	8 58	2 11	19 52	1 33	0 9	2 14	1 51	1 20
19	2 47	9 13	2 15	19 32	1 34	0 8	2 7	2 8	2 17
25	2 26	9 34	2 25	19 13	1 35	0 7	2 1	2 27	2 48
Days	☉'s longitude	D's long.	D's latitude	h's long.	u's long.	♂'s long.	♀'s long.	♂'s long.	
1	12 25 23	13 46	4 n 5	6 14	20 11 33	18 28	29 8 33	1 47	
2	13 24 26	25 15	4 37	6 20	20 42	18 51	21 44	1 10	
3	14 23 27	7 40	4 57	6 27	20 51	19 14	22 54	0 38	
4	15 22 27	20 22	5 3	6 33	21 0	19 38	24 4	0 19	
5	16 21 24	3 23	4 54	6 39	21 9	20 2	25 14	29 47	
E	17 20 19	16 40	4 29	6 46	21 18	20 26	26 24	29 31	
7	18 19 12	0 13	3 48	6 52	21 27	20 50	27 34	29 21	
8	19 18 3	13 59	2 53	6 58	21 36	21 15	28 43	29 16	
9	20 16 52	27 54	1 48	7 4	21 46	21 40	29 53	29 D 15	
10	21 15 39	11 55	0 35	7 10	21 55	22 5	1 11 3	9 19	
11	22 14 24	26 0	0 s 41	7 16	22 5	22 30	2 12	29 28	
12	23 13 6	10 58	1 54	7 21	22 15	22 55	3 21	29 42	
E	24 11 46	24 16	3 0	7 27	22 25	23 21	4 30	0 1	
14	25 10 23	8 24	3 56	7 33	22 35	23 47	5 39	0 24	
15	26 8 58	22 29	4 36	7 38	22 45	24 13	6 48	0 52	
16	27 7 31	6 31	5 1	7 44	22 56	24 40	7 56	1 25	
17	28 6 2	20 26	5 7	7 49	23 6	25 7	9 5	2 2	
18	29 4 31	4 11	4 55	7 55	23 16	25 34	10 14	3 43	
19	8 0 2 58	17 44	4 27	8 0	23 27	26 11	11 23	3 26	
E	1 1 23	1 2	3 45	8 5	23 37	26 28	12 30	4 14	
21	1 59 46	14 2	2 51	8 11	23 48	26 55	13 38	5 5	
22	2 58 7	26 45	1 50	8 16	23 59	27 23	14 45	5 59	
23	3 56 26	9 11	0 45	8 21	24 10	27 51	15 53	6 56	
24	4 54 44	21 25	0 n 21	8 26	24 21	28 19	17 1	7 56	
25	5 53 0	3 22	1 25	8 31	24 32	28 47	18 8	8 59	
26	6 51 15	15 10	2 25	8 36	24 43	29 15	19 15	10 5	
E	7 49 28	27 5	3 18	8 41	24 54	29 43	20 22	11 13	
28	8 47 40	8 57	4 4	8 46	25 5	0 12	21 29	12 24	
29	9 45 51	20 56	4 39	8 51	25 17	0 41	22 36	13 38	
30	10 44 0	3 7	5 2	8 55	25 28	1 10	23 43	14 54	
Days	♂'s sets	♀'s sets	♀'s sets	♂'s rises	h's declin.	u's declin.	♂'s declin.	♀'s declin.	♂'s declin.
1	0 m 50	3 m 3	10 a 12	5 m 5	10 s 39	22 n 58	24 n 39	19 n 5	2 n 12
7	0 32	2 47	10 33	5 2	10 16	23 2	24 11	21 8	0 s 14
13	0 14	2 32	10 52	4 43	10 14	23 6	23 39	22 53	1 13
19	11 a 54	2 17	11 9	4 25	10 2	23 10	23 3	24 17	0 43
25	11 37	1 53	11 24	4 15	9 51	23 14	22 24	25 18	0 n 59

The LUNATIONS.

New Moon the 6th day, at 46 minutes before 1 morning.

First quarter the 12th day, at 33 minutes past 5 afternoon.

Full Moon the 20th day, at 8 minutes past 1 morning.

Last quarter the 28th day, at 33 minutes past 4 morning.

M	Sundays & other	☉	☉	☉'s	☉'s	☉ rises	☉	Clock
D	remark. days	rises	sets	declin.	declin.	& sets	South	aft. ☉
1	Asc. St. Phil.	4 35	7 25	15 s 22	0 s 54	2 m 21	8 m 14	3 14
2	Land Ja.	4 34	7 26	15 39	4 n 2	2 39	8 59	3 21
3	Inv. of the Cross	4 32	7 28	15 57	8 55	3 0	9 47	3 27
4	S. after Ascen.	4 30	7 30	16 14	13 32	3 21	10 35	3 33
5	Easter Term en.	4 28	7 32	16 31	17 32	3 48	11 28	3 38
6	St. John A.P.L.	4 27	7 33	16 48	20 37	sets	0 a 25	3 43
7		4 25	7 35	17 4	22 27	9 a 51	1 25	3 47
8	Oxford Ter. en.	4 23	7 37	17 21	22 47	10 49	2 26	3 50
9		4 22	7 38	17 37	21 36	11 36	3 27	3 53
10		4 20	7 40	17 52	18 59	morn	4 26	3 56
11	Whit Sunday	4 19	7 41	18 7	15 14	0 12	5 22	3 57
12	Whit Mond.	4 17	7 43	18 22	10 38	0 42	6 14	3 59
13	Whit Tues.	4 16	7 44	18 37	5 33	1 5	7 4	3 59
14	Ember week	4 14	7 46	18 51	0 n 16	1 27	7 52	4 0
15		4 13	7 47	19 5	4 s 57	1 48	8 39	3 59
16		4 11	7 49	19 19	9 52	2 7	9 27	3 58
17		4 10	7 50	19 33	14 14	2 29	10 16	3 57
18	Trinity Sund.	4 8	7 52	19 46	17 52	2 54	11 5	3 55
19	Q. Ch. b.	Dunst.	7 53	19 58	20 34	3 24	11 56	3 52
20		4 6	7 54	20 11	22 15	rises	morn	3 49
21	Oxf. Ter. beg.	4 4	7 56	20 23	22 50	9 a 41	0 47	3 46
22	Prs. Eliz. b.	C. Chr.	7 57	20 34	22 19	10 22	1 38	3 41
23	Trin. Term b.	4 2	7 58	20 46	20 47	10 57	2 27	3 37
24		4 0	8 0	20 57	18 21	11 24	3 15	3 31
25	S. aft. Trin.	3 59	8 1	21 7	15 10	11 46	4 0	3 25
26	Augustin	3 58	8 2	21 18	11 23	morn	4 44	3 19
27	Vene. Bede	3 57	8 3	21 28	7 7	0 7	5 27	3 12
28		3 56	8 4	21 37	2 s 30	0 26	6 9	3 5
29	K. Ch. 2. refter.	3 55	8 5	21 46	2 n 18	0 43	6 52	2 57
30		3 54	8 6	21 55	7 8	1 1	7 36	2 49
31		3 53	8 7	22 3	11 47	1 21	8 23	2 41
D	Day	Length	Helioc.	Helioc.	Helioc.	Helioc.	Helioc.	H
ays	increas.	of day	long. ♀	long. ♀	long. ♂	long. ☉	long. ♀	rises
1	7 7	14 51	3 X 44	3 29	8 n 18	11 m 42	8 40	23 53
7	7 27	15 11	3 55	4 0	10 55	17 30	18 24	13 19
13	7 45	15 29	4 7	4 30	13 3	23 18	28 8	6 X 10
19	8 4	15 47	4 18	5 0	16 11	29 4	51	3 V 23
25	8 19	16 3	4 30	5 31	18 50	4 49	17 32	5 8 51

1788.

May.

17.

Days	Day lig. begins	Day lig. ends	Durat. twilig.	Pl. D's node	h's latitude	u's latitude	δ's latitude	♀'s latitude	♂'s latitude
1	2 6	9 57	2 3	18 54	1 30	0 8	1 55	2 35	2 57
7	1 44	10 17	2 4	18 35	1 37	0 6	1 49	2 44	2 43
13	1 19	10 45	3	18 10	1 39	0 5	1 43	2 49	2 10
19	0 48	11 20	3 32	17 57	1 40	0 5	1 37	2 45	1 20
25	All day-light								
M	☉'s longitude	D's long.	D's latitude	h's long.	u's long.	δ's long.	♀'s long.	♂'s long.	
1	8 11	42 8	15 35	5 11	9 0	25 14	18 39	24 49	16 12
2	12 40	15 28	5 6	9 4	25 52	2 8	25 55	17 32	
3	13 38	19 11	4 4	9 9	26 4	2 37	27 0	18 55	
E	14 36	23 25	4 2	9 13	26 16	3 7	28 5	20 20	
5	15 34	25 8	3 14	9 18	26 28	3 37	29 11	21 47	
6	16 32	26 23	2 1	9 22	26 40	4 7	30 16	23 16	
7	17 30	24 7	0 53	9 26	26 52	4 37	1 21	24 47	
8	18 28	21 21	0 8	9 30	27 4	5 7	2 26	26 20	
9	19 26	17 6	1 44	9 34	27 16	5 37	3 30	27 55	
10	20 24	11 20	2 54	9 38	27 28	6 7	4 35	29 33	
E	21 22	3 55	3 54	9 42	27 40	6 38	5 39	18 13	
12	22 19	5 19	4 38	9 46	27 52	7 9	6 43	2 55	
13	23 17	42 31	5 6	9 49	28 5	7 40	7 46	4 39	
14	24 15	28 17	5 15	9 53	28 17	8 11	8 50	6 25	
15	25 13	13 0	5 6	9 56	28 30	8 42	9 53	8 13	
16	26 10	56 14	4 41	9 59	28 42	9 13	10 55	10 4	
17	27 8	37 27	4 1	10 3	28 53	9 44	11 57	11 56	
E	28 6	17 10	3 10	10 6	29 7	10 15	12 59	13 49	
19	29 3	56 22	2 10	10 9	29 20	10 47	14 1	15 44	
20	11 0	1 33	1 5	10 12	29 31	11 19	15 3	17 41	
21	0 59	10 17	10 3	10 15	29 45	11 51	16 4	19 41	
22	1 56	45 29	1 6	10 18	29 58	12 23	17 5	21 44	
23	2 54	19 11	2 12	10 21	30 11	12 55	18 5	23 48	
24	3 51	52 23	3 8	10 23	30 24	13 27	19 4	25 53	
E	4 49	24 5	3 57	10 26	30 37	13 59	20 3	28 0	
26	5 46	56 17	4 35	10 29	30 50	14 31	21 2	30 8	
27	6 44	26 29	5 2	10 31	31 1	15 4	22 1	2 18	
28	7 41	57 11	5 10	10 33	31 16	15 36	22 59	4 29	
29	8 39	26 23	5 1	10 35	31 29	16 9	23 57	6 40	
30	9 36	55 6	4 55	10 38	31 4	16 41	24 54	8 52	
31	10 34	23 19	4 28	10 40	31 5	17 14	25 5	11 4	
Days	u's fets	δ's fets	♀'s fets	♂'s fets	h's declin.	u's declin.	δ's declin.	♀'s declin.	♂'s declin.
1	11 20	1 m 47	11 36	4 m 4	9 54	3 n 17	21 n 41	25 n 57	3 n 40
7	11 2	1 30	11 44	3 5	9 3	23 20	20 53	26 1	7 5
13	10 44	1 13	11 48	3 4	9 25	23 22	20 26	3 11	3
19	10 27	0 56	11 48	3 44	9 19	23 24	19 7	25 32	15 18
25	10 8	0 39	11 43	3 42	9 14	23 24	18 7	24 4	19 27

B

The LUNATIONS.

New Moon the 4th day, at 58 minutes past 8 morning.

First quarter the 10th day, at 38 minutes past 11 night.

Full Moon the 18th day, at 26 minutes past 3 afternoon.

Last quarter the 26th day, at 40 minutes past 6 afternoon.

M	Sundays & other	☉	☉	☉'s	D's	D rises	D	Clock
D	remark. days.	rises	sets	declin.	declin.	& sets	South	aft. ☉
1	S. aft. Trin.	Nicom.	8 8	22 11	16 n 1	1m 45	9m 13	2 31
2		3 51	8 9	22 19	19 30	2 14	10 7	2 22
3		3 50	8 10	22 26	21 52	2 52	11 6	2 12
4	K. Geo. III. b.	3 49	8 11	22 33	22 49	D sets	o a 8	2 2
5	St. Er. Aug. b.	Bonifa.	8 11	22 40	22 11	9 a 27	1 11	1 51
6		3 48	8 12	22 46	19 58	10 11	2 13	1 40
7		3 47	8 13	22 51	16 26	10 43	3 11	1 29
8	S. aft. Trin.	3 47	8 13	22 57	11 55	11 8	4 6	1 18
9		3 46	8 14	23 1	6 48	11 31	4 58	1 6
10		3 46	8 14	23 6	1n 27	11 51	5 47	0 54
11	St. Barnabas	Tr. T.e.	8 15	23 10	3 s 50	morn	6 34	0 42
12		3 45	8 15	23 14	8 50	0 10	7 22	0 30
13		3 44	8 16	23 17	13 19	0 32	8 10	0 18
14		3 44	8 16	23 20	17 5	0 56	8 58	0 5
15	S. aft. Trin.	3 44	8 16	23 22	20 0	1 23	9 48	obef. 8
16		3 43	8 17	23 24	21 56	1 57	10 38	0 20
17	St. Alban	3 43	8 17	23 26	22 48	2 38	11 28	0 33
18		3 43	8 17	23 27	22 34	D rises	morn	0 46
19		3 43	8 17	23 28	21 19	8 a 52	0 18	0 59
20	Transf. Ed. KWS	3 43	8 17	23 28	19 8	9 24	1 6	1 12
21	Longest day	3 43	8 17	23 28	16 9	9 46	1 52	1 24
22	S. aft. Trin.	3 43	8 17	23 27	12 31	10 7	2 36	1 37
23		3 43	8 17	23 27	8 23	10 25	3 19	1 50
24	Wm. J. Bapt.	3 43	8 17	23 25	3 s 55	10 43	4 1	2 3
25		4 43	8 17	23 23	0 n 47	11 1	4 42	2 15
26		3 44	8 16	23 21	5 31	11 19	5 25	2 28
27		3 44	8 16	23 19	10 9	11 4	6 9	2 40
28		3 44	8 16	23 16	14 28	morn	6 56	2 53
29	S. aft. Trin.	3 45	8 15	23 12	18 11	0 6	7 47	3 5
30	St. Peter	3 45	8 15	23 9	21 0	0 38	8 42	3 17
Day	Day	Length	Helioc.	Helioc.	Helioc.	Helioc.	Helioc.	H
in	increas.	of day	long. ♀	long. ♀	long. ♂	long. ☉	long. ♀	rises
1	8 33	16 7	4 43	6 6	21 55	11 32	28 48	19 11 1 0 54
7	8 42	16 26	4 55	6 36	24 34	17 16	8 11 25	25 53 0 29
13	8 46	16 30	5 6	7 6	27 14	23 0	18 128	14 0 4
19	8 50	16 34	5 18	7 36	29 55	28 44	27 36	25 11 1 38
25	odec. 2 16	32	5 29	8 7	2 35	4 27	7 9	17 21 11 13

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June.

19

Day	Day lig. begins	Day lig. ends	Durat. twilig.	Pl. D's node	h's latitude	u's latitude	δ's latitude	♀'s latitude	♂'s latitude
1				17 16	1 48	0 3	1 26	2 33	0 54
7				16 57	1 44	0 3	1 21	2 16	1 39
13	All	day	light	16 38	1 46	0 2	1 16	1 52	1 59
19				16 19	1 47	0 1	1 11	1 20	1 53
25				16 0	1 49	0 1	1 6	0 39	1 23
M	☉'s longitude		D's long.	D's latitude	h's long.	u's long.	δ's long.	♀'s long.	♂'s long.
E	11 31	50	38 8	3 40	10 42	2 28	17 47	26 49	13 16
2	12 29	17	17 7	2 38	10 44	2 21	18 20	27 46	15 28
3	13 26	43	1 29	1 25	10 46	2 34	18 53	28 42	17 39
4	14 24	8	16 9	0 5	10 47	2 48	19 26	29 37	19 49
5	15 21	33	1 26	1 17	10 49	3 1	20 0	30 31	21 59
6	16 18	56	15 55	2 34	10 51	3 14	20 33	1 25	24 7
7	17 16	19	0 45	3 40	10 52	3 28	21 7	2 18	26 13
E	18 13	40	15 25	4 31	10 53	3 41	21 40	3 11	28 18
9	19 11	1	29 49	5 4	10 54	3 54	22 14	4 3	0 21
10	20 8	21	13 54	5 17	10 55	4 8	22 47	4 55	2 22
11	21 5	39	27 39	5 12	10 56	4 21	23 21	5 46	4 21
12	22 2	56	11 4	4 50	10 57	4 34	23 55	6 37	6 18
13	23 0	13	24 11	4 13	10 58	4 48	24 29	7 27	8 13
14	23 57	29	7 0	3 25	10 58	5 1	25 3	8 16	10 6
E	24 54	44	19 35	2 27	10 59	5 15	25 37	9 4	11 56
16	25 51	58	1 57	1 23	10 59	5 28	26 11	9 51	13 44
17	26 49	12	14 8	0 16	10 59	5 42	26 46	10 37	15 30
18	27 46	25	26 12	0 51	11 0	5 55	27 20	11 23	17 13
19	28 43	38	8 9	1 54	11 0	6 9	27 54	12 8	18 54
20	29 40	50	20 1	2 53	11 0	6 22	28 28	12 52	20 33
21	30 38	3	1 51	3 43	11 0	6 36	29 3	13 35	22 9
E	1 35	15	13 42	4 25	11 0	6 50	29 37	14 17	23 43
23	2 32	27	25 35	4 54	10 59	7 3	0 12	14 58	25 15
24	3 29	39	7 35	5 12	10 59	7 17	0 46	15 37	26 44
25	4 26	51	19 46	5 15	10 59	7 31	1 21	16 16	28 11
26	5 24	3	2 10	5 5	10 59	7 45	1 56	16 54	29 35
27	6 21	16	14 53	4 39	10 58	7 58	2 31	17 30	0 57
28	7 18	29	27 58	3 58	10 58	8 12	3 6	18 5	2 16
E	8 15	42	11 27	3 3	10 57	8 25	3 41	18 39	3 33
30	9 12	56	25 23	1 56	10 56	8 39	4 16	19 11	4 47
Day	u's sets	δ's sets	♀'s sets	♂'s sets	h's declin.	u's declin.	δ's declin.	♀'s declin.	♂'s declin.
1	9 46	0 18	11 34	8 23	9 8	23 24	16 53	23 19	23 19
7	9 27	0 0	11 22	9 8	9 7	23 24	15 45	21 53	25 4
13	9 7	11 39	11 7	9 37	9 6	23 21	14 34	20 14	25 12
19	8 48	11 20	10 49	9 49	9 6	23 18	13 20	18 28	24 0
25	8 29	11 1	10 28	9 49	9 8	23 15	12 2	16 36	21 55

B 2

The LUNATIONS.

New Moon the 3d day, at 15 minutes past 4 afternoon.

First quarter the 10th day, at 33 minutes past 7 morning.

Full Moon the 18th day, at 34 minutes past 6 morning.

Last quarter the 26th day, at 10 minutes past 6 morning.

M D	Sundays & other remark. days	☉ rises	☉ sets	☉'s declin.	☽'s declin.	☽ rises & sets	☽ South	Clock bef. ☉
1	Camb. Com.	3 46	8 14	23 s 5	22 n 35	1 n 22 9 m 42	3 28	
2	V. fit. of B.V.M.	3 46	8 14	23 0	22 39	2 19 10 45	3 40	
3	Dog. days begin	3 47	8 13	22 55	21 6	☽ sets 11 48	3 51	
4	Transf. St. Mart.	Ca. T.e.	8 12	22 50	18 2	8 a 34 o a 50	4 1	
5	O. Midsum. day	3 48	8 12	22 44	13 45	9 55 1 49	4 12	
6	3 S. aft. Trin.	3 49	8 11	22 38	8 40	9 29 2 44	4 22	
7	Oxford Act	3 50	8 10	22 31	3 n 12	9 51 3 35	4 32	
8		3 50	8 10	22 24	2 s 18	10 9 4 24	4 41	
9		3 51	8 9	22 17	7 31	10 32 5 13	4 50	
10		3 52	8 8	22 9	12 13	10 55 6 2	4 58	
11		3 53	8 7	22 1	16 13	11 21 6 50	5 6	
12	Oxf. T. ends	3 54	8 6	21 53	19 21	11 53 7 40	5 14	
13	3 S. aft. Trin.	3 55	8 5	21 44	21 31	morn 8 30	5 21	
14		3 56	8 4	21 34	22 38	0 32 9 20	5 27	
15	Swithin	3 57	8 3	21 25	22 42	1 18 10 9	5 33	
16		3 58	8 2	21 15	21 43	2 11 10 58	5 39	
17		4 0	8 0	21 5	19 47	3 11 11 45	5 44	
18		4 1	7 59	20 54	17 0	☽ rises morn	5 48	
19		4 2	7 58	20 43	13 32	8 a 10 0 30	5 52	
20	3 S. aft. Trin.	Margar.	7 57	20 32	9 32	8 29 1 14	5 55	
21		4 5	7 55	20 2	5 9	8 46 1 56	5 58	
22	Magdalen	4 6	7 54	20 8	0 s 33	9 4 2 37	6 0	
23		4 7	7 53	19 55	4 n 8	9 22 3 19	6 2	
24		4 9	7 51	19 43	8 45	9 43 4 2	6 3	
25	St. James	4 10	7 50	19 30	13 4	10 6 4 48	6 4	
26	St. Anne	4 11	7 49	19 1	16 54	10 36 5 36	6 4	
27	10 S. aft. Trin.	4 13	7 47	19 3	19 59	11 11 6 28	6 3	
28		4 14	7 46	18 49	22 2	morn 7 24	6 2	
29		4 16	7 44	18 34	22 44	0 0 8 23	6 0	
30		4 17	7 43	18 20	21 55	1 2 9 25	5 58	
31		4 18	7 41	18 5	19 33	2 16 10 27	5 55	
Day	Day Length	Helioc. long. ♀	Helioc. long. ♀	Helioc. long. ♂	Helioc. long. ☉	Helioc. long. ♀	Helioc. long. ♂	h rises
1	0 4	16 30	5 41	8 36	5 17	10 30	16 40	6 n 40 10 a 50
7	0 12	16 22	5 52	9 6	8 0	15 54	26 12	24 11 10 25
13	0 24	16 10	6 4	9 36	10 45	21 37	5 40	10 49 10 0
19	0 38	15 56	6 15	10 6	13 30	27 20	15 9	27 21 9 36
25	0 54	15 40	6 27	10 36	16 15	3 4	24 33	14 34 9 12

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July.

21

Days	Day lig. begins	Day lig. ends	Durat. twilig.	Pl. D's node	h's latitude	u's latitude	δ's latitude	♀'s latitude	♂'s latitude
1	All day -	light	3 20	15 40	18 50	0 0	1 n 2	0 8 11	0 n 33
7				15 21	1 52	0 0	0 57	1 11	0 5 34
13				15 2	1 53	0 n 1	0 53	2 21	1 5 33
19				14 43	1 54	0 1	0 48	3 38	3 16
25				14 24	1 55	0 2	0 44	5 1	4 26
M D	☉'s longitude		D's long.	D's latitude	h's long.	u's long.	δ's long.	♀'s long.	♂'s long.
1	10 10	9	9 11 46	0 n 39	10 55	8 52	4 51	19 42	5 58
2	11 7	23	24 31	0 42	10 54	9 6	5 26	20 12	7 7
3	12 4	37	9 23 34	2 1	10 52	9 19	6 20	41 8	13
4	13 1	51	24 45	3 13	10 51	9 33	6 38	21 8	9 16
5	13 59	5	9 55	4 11	10 49	9 46	7 13	21 33	10 16
E	14 56	19	24 53	4 51	10 48	10 0	7 49	21 56	11 13
7	15 53	33	9 33	5 11	10 46	10 13	8 25	22 18	12 7
8	16 50	47	23 49	5 11	10 45	10 27	9 1	22 38	12 57
9	17 48	0	7 38	4 53	10 43	10 40	9 37	22 56	13 44
10	18 45	14	21 2	4 19	10 41	10 54	10 13	23 12	14 28
11	19 42	28	4 11 2	3 32	10 39	11 7	10 49	23 26	15 8
12	20 39	42	16 42	2 37	10 37	11 21	11 25	23 39	15 44
E	21 36	55	29 5	1 35	10 35	11 34	12 1	23 50	16 15
14	22 34	9	11 15	0 30	10 33	11 48	12 37	23 58	16 42
15	23 31	23	23 16	0 n 36	10 30	12 1	13 13	24 3	17 5
16	24 28	37	5 10	1 39	10 28	12 15	13 50	24 5	17 24
17	25 25	52	17 1	2 38	20 25	12 28	14 26	24 R 5	17 38
18	26 23	7	28 51	3 29	10 23	12 42	15 2	24 5	17 48
19	27 20	23	10 42	4 11	10 20	12 55	15 39	24 5	17 53
E	28 17	39	22 35	4 43	10 18	13 9	16 15	24 1	17 R 53
21	29 14	56	4 33	5 2	10 15	13 22	16 52	23 55	17 48
22	30 12	14	16 38	5 8	10 12	13 36	17 29	23 45	17 37
23	1 9	33	28 51	5 1	10 9	13 49	18 6	23 31	17 21
24	2 6	53	11 17	4 39	10 6	14 2	18 43	23 14	17 1
25	3 4	14	23 58	4 3	10 3	14 15	19 20	22 55	16 37
26	4 1	36	6 58	3 14	10 0	14 28	19 57	22 33	16 8
E	4 58	59	20 21	2 13	9 57	14 41	20 34	22 10	15 34
28	5 56	23	4 11 8	1 3	9 53	14 54	21 11	21 45	14 56
29	6 53	48	18 21	1 13	9 50	15 7	21 48	21 19	14 16
30	7 51	14	2 58	1 31	9 46	15 20	22 25	20 52	13 33
31	8 48	42	17 57	2 44	9 43	15 33	23 2	20 24	12 48
Days	u's rises	δ's sets	♀'s sets	♂'s sets	h's declin.	u's declin.	δ's declin.	♀'s declin.	♂'s declin.
1	3 m 39	10 a 43	10 a 4	9 a 39	9 s 11	23 n 10	10 n 42	14 n 46	19 n 20
7	3 21	10 24	9 39	9 21	9 16	23 5	9 18	12 58	16 38
13	3 3	10 6	9 10	8 57	9 22	22 59	7 52	11 22	14 9
19	2 46	9 47	8 37	8 28	9 28	22 52	6 24	10 4	12 23
25	2 29	9 28	8 3	7 54	9 35	22 44	4 54	9 9	11 39

The LUNATIONS.

New Moon the 1st day, at 6 minutes past 11 night.

First quarter the 8th day, at 36 minutes past 6 afternoon.

Full Moon the 16th day, at 57 minutes past 9 night.

Last quarter the 24th day, at 39 minutes past 3 afternoon.

New moon the 31st day, at 34 minutes past 6 morning.

M. Sundays & other D. remark. days	☉ rises	☉ sets	☉'s declin.	☾'s declin.	☾ rises & sets	☾ South	Clock bef. ☉		
1 Lammass day	4 20	7 40	17 s 49	15 n 49	☾ sets 11 m 29	5 51			
2	4 22	7 38	17 34	11 0	7 a 28	5 47			
E 11 S. aft. Trin.	4 24	7 36	17 18	5 n 34	7 51	5 43			
4	4 25	7 35	17 2	0 s 5	8 13	5 37			
5	4 27	7 33	16 46	5 35	8 36	5 31			
6 Transfiguration	4 28	7 32	16 29	10 37	9 0	5 25			
7 Prs. Amel. b.	N. of Jesus	30 16	12 14	56 9	25 4	5 18			
8	4 32	7 28	15 55	13 24	9 55	5 10			
9	4 34	7 26	15 37	20 52	10 32	5 2			
E 12 S. aft. Trin.	St. Laurence	25 15	20 22	18 11	16 7	4 53			
11 Prs. Brunf. b.	Dogd. e.	7 23	15 2	22 38	morn	4 43			
12 Pr. Wales b.	4 39	7 21	14 44	21 56	0 8	4 33			
13	4 41	7 19	14 25	20 16	1 6	4 22			
14	4 42	7 18	14 7	17 44	2 8	4 11			
15 Assumption	4 44	7 16	13 48	14 28	3 13	3 59			
16 D. of York b.	4 46	7 14	13 29	10 37	☾ rises 11 57	3 47			
E 13 S. aft. Trin.	4 48	7 12	13 10	6 20	6 55	3 34			
18	4 50	7 10	12 50	1 s 47	7 14	3 21			
19	4 51	7 9	12 30	2 n 53	7 34	3 7			
20	4 53	7 7	12 10	7 30	7 53	2 53			
21 Pr. W. Hen. b.	4 55	7 5	11 50	11 52	8 16	2 38			
22	4 57	7 3	11 30	15 47	8 43	2 23			
23	4 59	7 1	11 10	19 1	9 15	2 8			
E 14 S. aft. Trin.	5 1	6 59	10 49	21 19	9 59	1 52			
25 [St. Bartho.]	5 2	6 58	10 28	22 26	10 52	1 36			
26	5 4	6 56	10 7	22 13	11 58	1 19			
27	5 6	6 54	9 46	20 31	morn	1 2			
28 St. Augustine	5 8	6 52	9 25	17 26	1 16	0 44			
29 Behead. J. Bap.	5 10	6 50	9 3	13 11	2 39	0 27			
30	5 12	6 48	8 42	8 5	4 6	0 9			
E 15 S. aft. Trin.	5 14	6 46	8 20	2 30	sets	0 a 5	o a 10		
Day	Day decreas.	Length of day	Helioc. long. ♀	Helioc. long. ♀	Helioc. long. ♂	Helioc. long. ♂	Helioc. long. ♀	Helioc. long. ♂	rites
1	1 11	15 21	6 40	11 11	19 30	9 6	5 42	6 34	8 a 42
7	1 31	15 3	6 52	11 41	22 18	15 31	5 11	28 17	8 20
13	1 51	14 43	7 4	12 11	25 8	21 17	4 41	23 56	7 36
19	2 13	14 21	7 15	12 41	27 59	27 3	4 11	24 38	7 38
25	2 35	13 50	7 27	13 11	om 51	2 51	13 41	0 20	7 10

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August.

23

Days	Day lig. begins	Day lig. ends	Durat. twilig.	Pl. (C's node	h's latitude	u's latitude	δ's latitude	♀'s latitude	♂'s latitude
1	1 23	10 34	2 58	14 ♀ 2	1 57	0 3	0 40	6 30	4 54
7	1 47	10 13	2 46	13 43	1 58	0 3	0 35	7 26	4 12
13	2 9	9 51	2 34	13 24	1 58	0 4	0 31	7 56	2 41
19	2 29	9 31	2 25	13 5	1 59	0 5	0 27	7 56	0 57
25	2 47	9 13	2 18	12 46	2 0	0 5	0 23	7 30	0 31
M	O's longitude		D's long.	D's latitude	h's long.	u's long.	δ's long.	♀'s long.	♂'s long.
D									
1	Ω 9	46 12	3 Ω 9	3 s 46	9 X 39	15 54	23 m 39	19 Ω 54	12 Ω 2
2	10 43	42	18 25	4 32	9 36	15 58	24 16	19 21	11 15
E	11 41	12	3 m 33	4 50	9 32	16 11	24 54	18 46	10 29
4	12 38	43	18 24	5 5	9 28	16 24	25 31	18 10	9 44
5	13 36	16	2 50	4 51	9 24	16 37	26 9	17 34	9 1
6	14 33	50	16 47	4 20	9 20	16 50	26 46	16 58	8 21
7	15 31	24	om 15	3 36	9 16	17 2	27 24	16 22	7 46
8	16 28	59	13 16	2 41	9 12	17 15	28 2	15 46	7 15
9	17 26	35	25 53	1 41	9 8	17 27	28 40	15 9	6 49
E	18 24	12	8 ♀ 12	0 37	9 4	17 40	29 18	14 32	6 29
11	19 21	49	20 16	on 28	9 0	17 52	29 56	13 55	6 15
12	20 19	27	2 h 12	1 30	8 56	18 5	om 34	13 19	6 D 8
13	21 17	6	14 2	2 28	8 52	18 17	1 12	12 44	6 9
14	22 14	47	25 51	3 19	8 48	18 29	1 50	12 11	6 17
15	23 12	29	7 m 42	4 2	8 44	18 42	2 28	11 40	6 32
16	24 10	12	19 36	4 34	8 39	18 54	3 6	11 10	6 54
E	25 7	56	1 X 36	4 54	8 35	19 6	3 45	10 41	7 23
18	26 5	42	13 42	5 1	8 31	19 18	4 23	10 14	8 1
19	27 3	29	25 56	4 55	8 26	19 30	5 1	9 48	8 47
20	28 1	18	8 V 19	4 34	8 22	19 42	5 40	9 25	9 40
21	28 59	9	20 52	4 1	8 17	19 54	6 18	9 5	10 39
22	29 57	1	3 X 38	3 14	8 13	20 6	6 57	8 47	11 44
23	0 54	55	16 39	2 17	8 8	20 18	7 35	8 31	12 56
E	1 52	51	29 58	1 11	8 4	20 30	8 14	8 17	14 14
25	2 50	49	13 II 37	0 8	7 59	20 41	8 53	8 6	15 38
26	3 48	49	27 38	1 14	7 55	20 53	9 32	7 58	17 7
27	4 46	51	12 1	2 25	7 50	21 4	10 11	7 53	18 40
28	5 44	55	26 44	3 28	7 46	21 15	10 50	7 52	20 18
29	6 43	1	11 Ω 42	4 17	7 41	21 27	11 29	7 D 52	22 0
30	7 41	9	26 47	4 49	7 37	21 38	12 8	7 52	23 44
E	8 39	18	11 m 49	5 0	7 32	21 49	12 47	7 53	25 31
Days	u's rises	δ's sets	♀'s rises	♂'s rises	h's declin.	u's declin.	δ's declin.	♀'s declin.	♂'s declin.
1	2 m 9	9 a 8	5 m 51	5 m 2	9 s 46	22 n 35	3 n 8	8 n 42	12 n 30
7	1 52	8 50	5 6	4 6	9 56	22 26	1 34	8 51	14 17
13	1 36	8 33	4 25	3 28	10 5	22 17	0 0	9 23	16 9
19	1 20	8 18	3 47	3 11	10 15	22 7	1 s 35	10 11	17 10
25	1 4	8 2	3 15	3 21	10 26	21 58	3 10	11 16	40

B 4

The LUNATIONS.

First quarter the 7th day, at 18 minutes past 9 morning.
 Full Moon the 15th day, at 10 minutes past 1 afternoon.
 Last quarter the 22d day, at 38 minutes past 11 night.
 New Moon the 29th day, at 45 minutes past 3 afternoon.

M D	Sundays & other remark. days	☉ rites	☉ sets	☉'s declin.	☾'s declin.	☾ rises & sets	☾ South	Clock aft. ☉
1	Giles	5 16	6 44	7 58	3 58	6 a 44	o a 57	o 28
2	Lond. bur. 1666	5 18	6 42	7 36	8 27	7 8	1 49	o 47
3		5 20	6 40	7 14	13 10	7 33	2 41	1 7
4		5 22	6 38	6 52	17 3	8 3	3 33	1 26
5		5 23	6 37	6 29	19 56	8 38	4 25	1 46
6		5 25	6 35	6 7	21 43	9 20	5 12	2 6
7	16 9. aft. Trin.	Enurch	6 33	5 44	22 24	10 9	6 8	2 26
8	Nativ. of V. M.	5 29	6 31	5 22	22 1	11 5	6 58	2 46
9		5 31	6 29	4 59	20 38	morn	7 47	3 7
10		5 33	6 27	4 36	18 21	o 6	8 34	3 27
11		5 35	6 25	4 13	15 16	1 11	9 19	3 48
12		5 37	6 23	3 50	11 40	2 17	10 2	4 9
13		5 39	6 21	3 27	7 31	3 23	10 45	4 30
14	17 9. aft. Trin.	Fl. Crok.	6 19	3 4	3 3	4 31	11 28	4 51
15		5 43	6 17	2 41	1 n 31	☾ rises	morn	5 12
16		5 45	6 15	2 18	6 15	6 a 9	o 12	5 33
17	amber week	Lambel	6 13	1 55	10 42	6 31	o 57	5 54
18		5 49	6 11	1 31	14 44	6 58	1 44	6 15
19		5 51	6 9	1 8	18 7	7 28	2 33	6 36
20		5 53	6 7	0 45	20 38	8 8	3 25	6 57
21	18 9. aft. Trin	St. Mat.	6 5	0 21	22 2	8 57	4 20	7 18
22	K. Geo. 3. cro.	5 57	6 3	0 8	22 9	9 58	5 17	7 39
23		5 59	6 1	0 26	20 55	11 9	6 15	8 0
24		6 1	5 59	0 49	18 22	morn	7 14	8 20
25		6 3	5 57	1 13	14 39	o 28	8 11	8 40
26	St. Cyprian	6 4	5 56	1 36	10 0	1 50	9 6	9 0
27		6 6	5 54	1 59	4 n 46	3 13	10 0	9 20
28	19 9. aft. Trin.	6 8	5 52	2 23	0 s 44	4 36	10 52	9 40
29	St. Mic. Prs. Ch.	6 10	5 50	2 46	6 8	☾ sets	11 44	9 59
30	[Aug. Mat. b.	St. Jer.	5 48	3 10	11 8	5 a 43	o a 37	10 18
Days	Day decreaf.	Length of day	Helioc. long. ♀	Helioc. long. ♂	Helioc. long. ♂	Helioc. long. ☾	Helioc. long. ♀	h sets
1	3 1	13 33	7 40	13 24	4 m 14	9 37	24 48	14 8
7	3 25	13 9	7 52	14 16	7 9	15 27	4 20	18 14
13	3 49	12 45	8 3	14 46	10 6	21 18	13 53	16 24
19	4 11	12 23	8 15	15 16	13 5	27 0	23 28	10 24
25	4 35	11 59	8 27	15 46	16 5	8 2	3 8	3 33

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September.

25

Days	Day lig. begins	Day lig. ends	Durat. twilig.	Pl. D's node	h's latitude	u's latitude	δ's latitude	♀'s latitude	♂'s latitude
1	3 7	8 53	2 11	12 24	2 3	0 n 6	0 n 18	6 s 40	1 n 33
7	3 24	8 36	2 6	12 4	2 1	0 7	0 14	5 49	1 48
13	3 37	8 23	2 4	11 45	2 1	0 7	0 10	4 55	1 38
19	3 52	8 8	2 1	11 26	2 1	0 8	0 6	4 1	1 11
25	4 5	7 55	2 0	11 7	2 0	0 9	0 2	3 8	0 35
M D	☉'s longitude	☽'s long.	☽'s latitude	h's long.	u's long.	δ's long.	♀'s long.	♂'s long.	
1	11 9 37 28	16 23 39	4 s 52	7 27	22 25	0 13	26	7 57	27 21
2	10 35 41	11 27	4 24	7 23	22 11	14	5	8 3	29 13
3	11 33 55	25 8	3 42	7 18	22 22	14	44	8 12	1 5
4	12 32 11	8 11 40	2 47	7 14	22 35	15	24	8 23	2 58
5	13 30 28	1 45	1 46	7 9	22 44	16	3	8 37	4 52
6	14 28 47	4 24	0 41	7 5	22 55	10	42	8 54	6 47
E	15 27 7	16 43	0 n 24	7 0	23 5	17	22	9 14	8 43
8	16 25 29	28 48	1 27	6 56	23 16	18	1	9 36	10 38
9	17 23 52	10 42	2 25	6 51	23 26	18	41	9 59	12 32
10	18 22 17	22 31	3 16	6 47	23 36	19	21	10 23	14 26
11	19 20 44	4 22	3 59	6 42	23 46	20	1	10 48	16 20
12	20 19 12	16 15	4 31	6 38	23 56	20	41	11 13	18 13
13	21 17 41	28 15	4 52	6 33	24 6	21	42	11 39	20 5
E	22 16 12	10 23	5 0	6 29	24 16	22	1	12 7	21 56
15	23 14 46	22 41	4 54	6 25	24 26	22	41	12 37	23 46
16	24 13 21	5 9	4 34	6 20	24 35	23	21	13 9	25 35
17	25 11 58	17 47	4 1	6 16	24 45	24	1	13 44	27 23
18	26 10 37	0 36	3 15	6 12	24 55	24	41	14 21	29 11
19	27 9 19	13 36	2 18	6 8	25 4	25	22	15 0	0 58
20	28 8 3	26 48	1 12	6 4	25 13	25	2	15 4	2 44
E	29 6 49	10 13	0 2	6 0	25 22	26	43	16 20	4 29
22	0 5 37	23 52	1 s 10	5 56	25 31	27	23	17 1	6 12
23	1 4 28	7 46	2 19	5 52	25 40	28	4	17 42	7 54
24	2 3 21	21 56	3 21	5 48	25 49	28	44	18 23	9 36
25	3 2 17	6 21	4 12	5 44	25 58	29	25	19 5	1 17
26	4 1 15	20 57	4 46	5 40	26 6	0 11	5	19 49	12 57
27	5 0 15	5 39	5 2	5 36	26 15	0	46	20 34	14 36
E	5 59 18	20 20	4 58	5 33	26 23	1	27	21 20	16 14
29	6 58 23	4 53	4 35	5 29	26 31	2	8	22 8	17 51
30	7 57 30	19 10	3 55	5 25	26 39	2	49	22 57	19 28
Days	u rises	δ sets	♀ rises	♂ rises	h's declin.	u's declin.	δ's declin.	♀'s declin.	♂'s declin.
1	0 m 46	7 a 43	2 m 43	4 m 0	10 s 39	21 n 46	5 s 2	11 0 51	13 n 51
7	0 30	7 28	2 26	4 42	10 49	21 36	6 37	12 22	9 59
13	0 14	7 13	2 13	sets	10 59	21 26	8 11	12 35	5 26
19	11 a 54	6 59	2 6	6 a 23	11 8	21 17	9 43	12 31	0 42
25	11 37	6 44	2 4	6 15	11 17	21 8	11 15	12 10	3 54

The LUNATIONS.

First quarter the 7th day, at 28 minutes past 3 morning.

Full Moon the 15th day, at 50 minutes past 3 morning.

Last quarter the 22d day, at 43 minutes past 6 morning.

New Moon the 29th day, at 29 minutes past 3 morning.

M D	Sundays & other remark. days	☉ rises	☉ sets	☉'s declin.	☽'s declin.	☽ rises & sets	☽ South	Clock aft. ☉	
1	Remigius	6 14	5 46	3 33	15 24	6 a 9	1 a 29	10 37	
2		6 16	5 44	3 56	18 43	6 45	2 23	10 55	
3		6 18	5 42	4 20	20 57	7 25	3 16	11 13	
4		6 20	5 40	4 43	22 3	8 11	4 8	11 31	
5	20 S. aft. Trin.	6 22	5 38	5 6	22 1	9 5	4 59	11 48	
6	Faith	6 24	5 36	5 29	20 56	10 5	5 49	12 5	
7		6 26	5 34	5 52	18 56	11 8	6 37	12 22	
8		6 28	5 32	6 15	16 9	morn	7 22	12 38	
9	St. Denys	6 30	5 30	6 38	12 42	0 12	8 6	12 54	
10	Ox. & Cam. T.b.	O. Mic	Day 28	7 0	8 44	1 19	8 49	13 10	
11		6 34	5 26	7 23	4 24	2 26	9 32	13 24	
12	21 S. aft. Trin.	6 36	5 24	7 46	0 n 10	3 34	10 15	13 39	
13	Tr. K. Edward	Con. 38	5 22	8 8	4 49	4 42	11 0	13 53	
14		6 40	5 20	8 30	9 22	5 42	11 47	14 6	
15		6 42	5 18	8 53	13 34	☽ rises	morn	14 19	
16		6 44	5 16	9 15	17 11	5 a 35	0 36	14 31	
17	Etheldred	6 45	5 15	9 37	19 57	6 14	1 28	14 43	
18	St. Luke	6 47	5 13	9 58	21 38	6 59	2 23	14 54	
19	22 S. aft. Trin.	6 49	5 11	10 20	22 3	7 59	3 20	15 4	
20		6 51	5 9	10 42	21 7	8 8	4 18	15 14	
21		6 53	5 7	11 3	18 52	10 21	5 16	15 23	
22		6 55	5 5	11 24	15 29	11 41	6 12	15 31	
23		6 57	5 3	11 45	11 12	morn	7 6	15 39	
24		6 59	5 1	12 6	6 17	1 2	7 58	15 46	
25	K. Geo. III. ac.	Crispin	4 59	12 27	1 n 1	2 22	8 49	15 52	
26	23 S. af. Tri. K.	7 3	4 57	12 47	4 17	3 42	9 40	15 57	
27	(Geo. III. pro.	7 4	4 56	13 7	9 19	5 2	10 31	16 2	
28	St. Sim. & Jude	7 6	4 54	13 27	13 47	6 21	11 23	16 6	
29		7 8	4 52	13 47	17 27	☽ sets	0 a 15	16 9	
30		7 10	4 50	14 7	20 6	5 a 22	1 8	16 11	
31		7 12	4 48	14 26	21 38	6 7	2 1	16 13	
Days	Day decreas.	Length of day	Helioc. long. ♀	Helioc. long. ♀	Helioc. long. ♂	Helioc. long. ☉	Helioc. long. ♀	Helioc. long. ♂	h sets
1	4 59	11 35	8 38	16 15	19 11	7 8	12 39	18 33	3m 4
7	5 23	11 10	8 50	16 45	22 11	14 52	22 16	5 22	2 41
13	5 45	10 48	9 2	17 15	25 17	20 49	11 54	21 52	2 17
19	6 9	10 24	9 13	17 44	28 25	26 47	11 34	8 46	1 54
25	6 31	10 2	9 25	18 14	1 35	28 46	21 14	26 51	1 30

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October.

27

Days	Day lig. begins	Day lig. ends	Durat. twilig.	Pl. D's node	h's latitude	u's latitude	δ's latitude	♀'s latitude	♂'s latitude
1	4 18	7 42	I 59	10 48	2 s 0	0 n 10	0 s 1	2 s 18	0 s 7
7	4 31	7 29	I 58	10 29	2 0	0 11	0 5	I 32	0 49
13	4 43	7 17	I 57	10 10	I 59	0 11	0 9	0 50	I 30
19	4 55	7 5	I 57	9 51	I 58	0 12	0 13	0 12	2 6
25	5 6	6 54	I 58	9 32	I 58	0 13	0 16	0 22	2 34
M D	☉'s longitude	D's long.	D's latitude	h's long.	u's long.	δ's long.	♀'s long.	♂'s long.	
1	8 56 38	3m 4	3 s 2	5 22	26 47	3m 30	23 47	1 4	
2	9 55 49	16 35	I 59	5 19	26 55	4 11	24 37	22 39	
3	10 55 2	29 40	0 52	5 16	27 2	4 52	25 28	24 13	
4	11 54 17	12 21	0 n 15	5 13	27 10	5 34	26 19	25 46	
E	12 53 33	24 43	I 21	5 10	27 17	6 15	27 11	27 19	
6	13 52 51	6 49	2 21	5 7	27 24	6 56	28 4	28 51	
7	14 52 11	18 45	3 15	5 4	27 31	7 38	28 57	0m 22	
8	15 51 32	0 36	3 59	5 1	27 38	8 19	29 50	1 53	
9	16 50 55	12 27	4 34	4 58	27 45	9 1	0m 44	3 23	
10	17 50 20	24 23	4 56	4 55	27 51	9 42	1 39	4 51	
11	18 49 47	6 28	5 6	4 53	27 58	10 24	2 35	6 19	
E	19 49 15	18 44	5 2	4 50	28 5	11 5	3 32	7 46	
13	20 48 45	1 13	4 44	4 47	28 11	11 47	4 30	9 13	
14	21 48 17	13 56	4 11	4 45	28 17	12 29	5 28	10 39	
15	22 47 52	26 53	3 25	4 43	28 23	13 11	6 26	12 4	
16	23 47 28	10 8	2 27	4 41	28 28	13 53	7 24	13 28	
17	24 47 7	23 26	1 21	4 39	28 34	14 35	8 23	14 51	
18	25 46 48	6 11	0 8	4 37	28 39	15 17	9 23	16 14	
E	26 46 31	20 42	1 s 6	4 35	28 44	15 59	10 22	17 36	
20	27 46 16	4 33	2 17	4 33	28 49	16 41	11 22	18 57	
21	28 46 4	18 33	3 20	4 31	28 54	17 23	12 23	20 16	
22	29 45 54	2 40	4 12	4 30	28 58	18 6	13 24	21 34	
23	m 0 45 47	16 52	4 49	4 28	29 3	18 48	14 26	22 51	
24	1 45 42	1m 8	5 9	4 26	29 7	19 30	15 28	24 6	
25	2 45 39	15 25	5 9	4 25	29 11	20 13	16 31	25 20	
E	3 45 38	29 38	4 50	4 24	29 15	20 55	17 34	26 32	
27	4 45 39	13 43	4 14	4 23	29 18	21 38	18 37	27 43	
28	5 45 43	27 36	3 23	4 22	29 22	22 21	19 40	28 52	
29	6 45 48	11m 12	2 21	4 21	29 25	23 4	20 44	29 59	
30	7 45 56	24 30	1 13	4 20	29 29	23 47	21 48	1 3	
31	8 46 5	7 28	0 3	4 19	29 32	24 29	22 52	2 5	
Days	u's rises	δ's sets	♀'s rises	♂'s rises	h's declin.	u's declin.	δ's declin.	♀'s declin.	♂'s declin.
1	11 a 20	6 a 30	2m 5	6 a 6	11 s 25	20 n 59	12 s 43	11 n 26	8 s 20
7	11 2	6 16	2 10	5 57	11 32	20 51	14 9	10 25	12 23
13	10 44	6 2	2 17	5 48	11 37	20 44	15 32	9 6	16 0
19	10 25	5 48	2 26	5 40	11 41	20 38	16 51	7 31	19 7
25	10 4	5 35	2 37	5 32	11 44	20 35	18 5	5 40	21 37

The LUNATIONS.

First quarter the 5th day, at 53 minutes past 11 at night.

Full Moon the 13th day, at 40 minutes past 5 evening.

Last quarter the 20th day, at 49 minutes past 1 afternoon.

New Moon the 27th day, at 10 minutes past 6 evening.

M	Sundays & other	☉	☉	☉'s	☉'s	☉ rises	☉	Clock
D	remark. days	rises	sets	declin.	declin.	& sets	South	aft. ☉
1	All Saints	7 14	4 46	14 45	22 0	6 59	2 54	16 14
2	24 S. aft. Trin.	Pr.E.b.	AllSoul	15 4	21 16	7 58	3 45	16 14
3	Prs. Sophia b.	7 19	4 43	15 23	19 33	8 59	4 33	16 13
4		7 19	4 41	15 42	17 10	10 3	5 19	16 11
5	Powder Plot.	7 21	4 39	16 0	13 46	11 9	6 4	16 9
6	Leonard. Mich	7 21	4 38	16 18	10 0	morn	6 47	16 6
7	D. Cumberl. b.	7 24	4 36	16 35	5 49	0 13	7 29	16 2
8	Prs. Aug. So. b.	7 26	4 34	16 53	1 22	1 18	8 11	15 57
9	25 S. aft. Trin.	7 27	4 33	17 10	3 13	2 27	8 54	15 51
10	Ld. Mayor's day	7 29	4 31	17 26	7 47	3 36	9 39	15 44
11	St. Martin.	7 31	4 29	17 43	12 7	4 47	10 27	15 37
12		7 32	4 28	17 59	15 59	5 59	11 18	15 29
13	Britius	7 34	4 26	18 15	19 9	☉ rises	morn	15 20
14		7 36	4 24	18 30	21 11	4 55	0 13	15 10
15	Machutus	7 37	4 23	18 45	21 59	5 51	1 11	14 59
16	26 S. aft. Trin.	7 39	4 21	19 0	21 24	6 56	2 10	14 47
17	Hugh	7 40	4 20	19 15	19 26	8 7	3 9	14 35
18		7 42	4 18	19 29	16 14	9 30	4 6	14 21
19		7 43	4 17	19 43	12 6	10 49	5 1	14 7
20	Edmund	7 44	4 16	19 56	7 19	morn	5 54	13 52
21		7 46	4 14	20 9	2 10	0 9	6 44	13 36
22	Cecilia. O. Mar.	7 47	4 13	20 22	3 51	1 26	7 33	13 20
23	27 S. aft. Trin.	St.Cle.	4 12	20 34	8 1	2 38	8 22	13 2
24		7 50	4 10	20 46	12 33	4 1	9 12	12 44
25	D. Glof. born	Cather	4 9	20 58	16 23	5 15	10 2	12 25
26		7 52	4 8	21 9	19 19	6 28	10 54	12 5
27		7 53	4 7	21 20	21 13	☉ sets	11 46	11 45
28	Mic. Term ends	7 54	4 6	21 30	21 58	4 43	0 39	11 24
29		7 56	4 4	21 40	21 36	5 38	1 30	11 2
30	Adv. Sun. St. Andr.	4	3	21 50	20 13	6 39	2 20	10 39
Day	Day	Length	Helioc.	Helioc.	Helioc.	Helioc.	Helioc.	h
	decreas.	of day	long. ♀	long. ☿	long. ♂	long. ☊	long. ♀	sets
1	6 57	9 37	9 38	18 49	5 18	9 46	2 33	2 44
7	7 19	9 15	9 50	19 18	8 32	15 48	12 16	14 56
13	7 39	8 55	10 2	19 48	11 49	21 50	22 0	13 54
19	7 58	8 36	10 13	20 17	15 7	27 54	19 45	18 8
25	8 14	8 29	10 25	20 46	18 27	3 58	11 30	25 11

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November.

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Day	Day lig. begins	Day lig. ends	Durat. twilig.	Pl. D's node	h's latitude	u's latitude	δ's latitude	♀'s latitude	♂'s latitude
1	5 17	6 43	1 59	9 ♀ 10	1 57	0 n 14	0 s 20	0 n 56	2 s 49
7	5 25	6 35	2 2	8 51	1 56	0 15	0 24	1 20	2 36
13	5 34	6 26	2 3	8 32	1 55	0 16	0 27	1 40	1 40
19	5 41	6 19	2 5	8 13	1 54	0 17	0 31	1 55	0 8
25	5 48	6 12	2 7	7 53	1 52	0 19	0 34	2 5	1 57
M	☉'s longitude.		D's long.	D's latitude	h's long.	u's long.	δ's long.	♀'s long.	♂'s long.
D									
1	m 9	46 16	20 ♀ 7	1 n 0	4 ✕ 10	29 35	25 m 12	23 m 56	3 4 3
E	10	46 29	2 ♀ 28	2 10	4 18	29 37	25 55	25 1	3 57
3	11	46 43	14 36	3 8	4 18	29 39	26 38	26 6	4 48
4	12	46 59	26 33	3 56	4 17	29 41	27 21	27 12	5 36
5	13	47 16	8 m 26	4 34	4 17	29 42	28 5	28 18	6 18
6	14	47 35	20 17	5 0	4 D 17	29 45	28 40	29 24	6 54
7	15	47 55	2 ✕ 14	5 13	4 17	29 47	29 31	30 30	7 26
8	16	48 10	14 19	5 13	4 17	29 48	0 14	1 37	7 51
E	17	48 39	26 38	4 59	4 18	29 50	0 58	2 44	8 7
10	18	49 3	9 ♀ 13	4 20	4 18	29 51	1 41	3 51	8 16
11	19	49 29	22 6	3 46	4 18	29 52	2 24	4 58	8 R 17
12	20	49 56	5 8 19	2 50	4 19	29 53	3 7	6 5	8 7
13	21	50 25	18 50	1 43	4 19	29 54	3 51	7 15	7 47
14	22	50 55	2 II 38	0 29	4 20	29 54	4 34	8 21	7 17
15	23	51 27	16 39	0 s 49	4 21	29 55	5 17	9 29	6 37
E	24	52 1	0 50	2 4	4 22	29 R 55	6 2	10 38	5 46
17	25	52 37	15 6	3 12	4 23	29 55	6 46	11 46	4 46
18	26	53 14	29 25	4 9	4 24	29 54	7 30	12 55	3 39
19	27	53 53	13 Ω 42	4 49	4 25	29 53	8 14	14 4	2 23
20	28	54 34	27 55	5 12	4 26	29 52	8 58	15 13	1 5
21	29	55 17	12 m 2	5 16	4 28	29 51	9 4	16 23	29 m 44
22	♂ 0	56 1	26 0	5 1	4 29	29 49	10 26	17 32	28 19
E	1	56 47	9 48	4 29	4 31	29 48	11 10	18 42	26 59
24	2	57 35	23 25	3 42	4 33	29 46	11 55	19 51	25 48
25	3	58 24	6 m 50	2 44	4 35	29 44	12 35	21 1	24 45
26	4	59 15	20 1	1 37	4 37	29 42	13 23	22 11	23 51
27	6	0 7	2 ♀ 58	0 27	4 39	29 40	14 8	23 22	23 8
28	7	1 0	15 41	0 n 43	4 41	29 37	14 52	24 32	22 35
29	8	1 54	28 10	1 50	4 43	29 35	15 37	25 43	22 14
E	9	2 50	10 ♀ 26	2 51	4 45	29 3	16 21	26 53	22 D 5
Days	u's riles	δ's fets	♀'s riles	♂'s fets	h's declin.	u's declin.	δ's declin.	♀'s declin.	♂'s declin.
1	9 a 38	5 a 21	2 m 50	5 23	11 s 45	20 n 30	19 s 25	3 n 16	23 a 33
7	9 16	5 7	3 2	5 14	11 45	20 28	20 27	1 124	8
13	8 52	4 55	3 15	4 58	11 44	20 28	21 23	1 21	23 16
19	8 27	4 44	3 28	4 30	11 41	20 29	22 12	3 47	20 32
25	8 0	4 33	3 41	3 48	11 36	20 32	22 54	6 17	17 4

The LUNATIONS.

First quarter the 5th day, at 46 past 8 night.

Full Moon the 13th day, at 22 minutes past 6 morning.

Last quarter the 19th day, at 4 minutes past 10 night

New Moon the 27th day, at 31 minutes past 11 morning.

M D	Sundays & other remark. days	☉ rises	☉ sets	☉'s declin.	☾'s declin.	☾ rises & sets	☾ South	Clock aft. ☉	
1		7 58	4 2	21 59	17 55	7 a 45	3 a 7	10 16	
2		7 59	4 1	22 8	14 52	8 49	3 52	9 52	
3		8 0	4 0	22 16	11 15	9 53	4 35	9 28	
4		8 0	4 0	22 24	7 13	10 58	5 17	9 3	
5		8 1	3 59	22 31	2 53	morn	5 58	8 38	
6	Nicholas	8 2	3 58	22 38	1 n 36	0 3	6 39	8 12	
7	S. in Advent	8 3	3 57	22 45	6 6	1 9	7 22	7 45	
8	Conception	8 4	3 56	22 51	10 28	2 18	8 7	7 19	
9		8 4	3 56	22 56	14 30	3 27	8 56	6 51	
10		8 5	3 55	23 2	17 56	4 40	9 49	6 24	
11		8 5	3 55	23 6	20 28	5 53	10 45	5 56	
12		8 6	3 54	23 11	21 50	7 2	11 44	5 28	
13	Lucy	8 6	3 54	23 14	21 48	☾ rises	morn	4 59	
14	S. in Advent	8 7	3 53	23 18	20 16	5 a 41	0 44	4 30	
15		8 7	3 53	23 21	17 23	7 2	1 44	4 1	
16	O. Sap. Cam. Te.	8 7	3 53	23 23	13 22	8 23	2 42	3 31	
17	Em. W. Ox. T.e.	8 8	3 52	23 25	8 36	9 47	3 38	3 2	
18		8 8	3 52	23 26	3 n 25	11 6	4 31	2 32	
19		8 8	3 52	23 27	1 s 51	morn	5 21	2 2	
20		8 8	3 52	23 28	6 56	0 23	6 10	1 32	
21	S. in Adv. St.	Shor. d.	3 52	23 28	11 33	1 38	6 58	1 2	
22	(Thomas)	8 8	3 52	23 27	15 32	2 53	7 47	0 32	
23		8 8	3 52	23 27	18 40	4 5	8 37	0 2	
24		8 8	3 52	23 25	20 48	5 12	9 28	obe. 28	
25	Christmas day	8 7	3 53	23 23	21 53	6 16	10 19	0 58	
26	St. Stephen	8 7	3 53	23 21	21 51	7 7	11 11	1 28	
27	St. John	8 7	3 53	23 18	20 46	☾ sets	0 a 1	1 58	
28	S. aft. Christ.	8 6	3 54	23 15	18 41	5 a 16	0 48	2 28	
29	(Innocen.)	8 6	3 54	23 11	15 54	6 21	1 34	2 57	
30		8 5	3 55	23 7	12 27	7 27	2 18	3 26	
31	Silvester	8 5	3 55	23 2	8 32	8 32	3 0	3 55	
Days	Day decreaf.	Length of day	Helioc. long. ♀	Helioc. long. ♂	Helioc. long. ♂	Helioc. long. ☉	Helioc. long. ♀	Helioc. long. ☿	h sets
1	8 28	8 6	10 37	21 16	21 49	10 11	21 16	10 59	10 a 58
7	8 40	7 54	10 48	21 46	25 14	16 10	11 1	3 20	10 34
13	8 46	7 48	11 0	22 16	28 40	22 16	10 47	29 15	10 9
19	8 50	7 44	11 12	22 45	28 8	28 23	20 31	20 57	9 45
25	oinc. 2	7 46	11 23	23 14	5 39	4 30	0 15	9 52	9 21

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December.

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Days	Daylig. begins	Daylig. ends	Durat. twilig.	Pl. D's node	h's latitude	u's latitude	♂'s latitude	♀'s latitude	♂'s latitude
1	5 54	6 6	2 8	7 f 34	1 s 52	0 n 20	0 s 37	2 n 12	2 n 40
7	5 57	6 3	2 10	7 15	1 51	0 21	0 40	2 14	2 27
13	5 59	6 1	2 12	6 56	1 51	0 22	0 43	2 13	1 48
19	6 1	5 59	2 11	6 37	1 50	0 23	0 46	2 8	1 2
25	6 1	5 59	2 11	6 18	1 50	0 24	0 49	2 0	0 15
M D	☉'s longitude	D's long.	D's latitude	h's long.	u's long.	♂'s long.	♀'s long.	♂'s long.	♀'s long.
1	f 10	3 46	22 31	3 n 43	4 48	29 29	17 f 6	28 4	22 m 7
2	11	4 44	4 29	4 25	4 50	29 26	17 50	29 15	22 19
3	12	5 42	16 21	4 55	4 53	29 22	18 35	0 m 26	22 39
4	13	6 41	28 12	5 13	4 56	29 19	19 20	1 37	23 8
5	14	7 40	10 7	5 17	4 59	29 15	20 4	2 49	23 44
6	15	8 40	22 10	5 7	5 2	29 11	20 49	4 0	24 27
E	16	9 41	4 27	4 44	5 5	29 7	21 34	5 11	25 18
8	17	10 42	17 0	4 6	5 8	29 3	22 19	6 23	26 14
9	18	11 43	29 55	3 15	5 11	28 58	23 4	7 34	27 13
10	19	12 45	13 13	2 13	5 15	28 54	23 49	8 46	28 14
11	20	13 48	26 55	1 0	5 18	28 49	24 34	9 57	29 19
12	21	14 52	11 1	0 17	5 21	28 44	25 19	11 9	0 f 28
13	22	15 56	25 26	1 36	5 25	28 39	26 4	12 21	1 42
E	23	17 1	10 6	2 49	5 29	28 34	26 49	13 33	2 57
15	24	18 6	24 53	3 51	5 33	28 28	27 35	14 45	4 13
16	25	19 12	9 40	4 39	5 37	28 23	28 20	15 58	5 31
17	26	20 19	24 19	5 7	5 41	28 17	29 6	17 10	6 51
18	27	21 27	8 46	5 15	5 45	28 11	29 51	18 22	8 13
19	28	22 35	22 57	5 4	5 49	28 5	0 37	19 35	9 36
20	29	23 44	6 50	4 36	5 53	27 59	1 23	20 47	11 0
E	30	24 54	20 24	3 52	5 57	27 52	2 8	22 0	12 24
22	1 26	5 3	3 41	2 57	6 2	27 46	2 54	23 13	13 49
23	2 27	16 16	16 43	1 53	6 6	27 39	3 39	24 26	15 15
24	3 28	28 28	29 30	0 45	6 10	27 32	4 25	25 39	16 42
25	4 29	40 12	f 6	0 n 24	6 15	27 26	5 11	26 52	18 9
26	5 30	53 24	30 1	1 31	6 20	27 19	5 56	28 5	19 37
27	6 32	6 6	6 46	2 32	6 25	27 12	6 42	29 18	21 6
E	7 33	19 18	53 3	26 6	6 30	27 5	7 28	0 f 31	22 35
29	8 34	32 0	53 4	10 6	6 35	26 58	8 14	1 44	24 5
30	9 35	45 12	48 4	43 6	6 40	26 51	9 0	2 57	25 35
31	10 36	58 24	40 5	4 6	6 45	26 43	9 46	4 10	27 5
Days	u's rises	♂'s sets	♀'s rises	♂'s rises	h's declin.	u's declin.	♂'s declin.	♀'s declin.	♂'s declin.
1	7 a 33	4 a 22	3 m 55	6 m 6	11 s 30	20 n 36	13 s 27	8 s 45	15 s 45
7	7 4	4 12	4 9	6 0	11 23	20 42	23 52	11 9	16 44
13	6 35	4 3	4 22	6 11	11 15	20 48	24 7	13 27	18 45
19	6 6	3 5	4 36	6 32	11 6	20 56	24 14	15 36	20 54
25	5 36	3 49	4 51	6 52	10 56	21 5	24 11	17 32	22 47

Time of High-Water at LONDON in the morning and after-noon of every day in the year.

Mo. Days	JANUARY				FEBRUARY				MARCH				APRIL				Mo. Days
	morn.		aftern.		morn.		aftern.		morn.		aftern.		morn.		aftern.		
	h	m	h	m	h	m	h	m	h	m	h	m	h	m	h	m	
1	7	43	8	12	8	57	9	30	8	23	8	55	9	54	10	24	1
2	8	40	9	11	10	3	10	35	9	28	10	0	10	52	11	21	2
3	9	40	10	18	11	6	11	36	10	31	11	0	11	48			3
4	10	48	11	19			0	6	11	29	11	57	0	15	0	39	4
5	11	50			0	33	0	58			0	23	1	4	1	26	5
6	0	19	0	45	1	22	1	44	0	47	1	10	1	51	2	15	6
7	1	11	1	30	2	0	2	29	1	33	1	55	2	3	2	58	7
8	2	1	2	24	2	37	3	2	2	17	2	38	3	16	3	33	8
9	2	43	3	6	3	16	3	30	2	55	3	10	3	50	4	8	9
10	3	15	3	29	3	44	3	57	3	26	3	42	4	31	4	54	10
11	3	43	3	56	4	13	4	29	3	58	4	13	5	14	5	43	11
12	4	11	4	23	4	37	5	6	4	32	4	55	6	11	6	43	12
13	4	41	4	52	5	26	5	45	5	18	5	42	7	13	7	47	13
14	5	14	5	32	6	16	6	45	6	11	6	42	8	20	8	55	14
15	5	52	6	16	7	17	7	49	7	13	7	47	9	30	10	5	15
16	6	41	7	6	8	28	9	8	8	23	9	2	10	38	11	9	16
17	7	39	8	13	9	48	10	29	9	40	10	20	11	41			17
18	8	46	9	27	11	8	11	46	10	56	11	31	0	11	0	30	18
19	10	7	10	47			0	24			0	4	1	3	1	29	19
20	11	27			0	54	1	22	0	32	1	0	1	53	2	18	20
21	0	6	0	41	1	48	2	15	1	26	1	52	2	42	3	2	21
22	1	15	1	47	2	40	3	0	2	17	2	39	3	18	3	34	22
23	2	17	2	42	3	16	3	31	2	58	3	15	3	50	4	7	23
24	3	3	3	22	3	47	4	2	3	31	3	48	4	24	4	43	24
25	3	38	3	55	4	20	4	39	4	3	4	23	5		5	2	25
26	4	9	4	29	4	59	5	19	4	41	5	1	5	44	6	7	26
27	4	47	5	5	5	38	6	2	5	20	5	42	6	31	6	55	27
28	5	23	5	45	6	28	6	54	6	6	6	31	7	20	7	46	28
29	6	8	6	33	7	21	7	51	6	58	7	24	8	14	8	42	29
30	6	58	7	25					7	53	8	21	9	11	9	39	30
31	7	53	8	25					8	54	9	24					31

This Table may serve the following Places, by adding

	h	m
For Tinmouth Haven, Hartle-pool, and Amsterdam	0	30
Brest	—	—
Scilly	—	—
Mount's Bay	—	—
Bridlington Pier and Humber	—	—

Time of High-Water at LONDON in the morning and afternoon of every day in the year.

Mo. Days	MAY				JUNE				JULY				AUGUST				Mo. Days
	morn.		aftern.		morn.		aftern.		morn.		aftern.		morn.		aftern.		
	h	m	h	m	h	m	h	m	h	m	h	m	h	m	h	m	
1	10	7	10	36	11	23	11	55	11	59			1	23	1	53	1
2	11	5	11	36			0	28	0	34	1	8	2	21	2	47	2
3			0	6	0	59	1	30	1	42	2	13	3	7	3	25	3
4	0	33	0	58	2	1	2	32	2	40	3	4	3	41	3	57	4
5	1	25	1	52	2	57	3	18	3	24	3	42	4	15	4	34	5
6	2	19	2	46	3	38	3	57	4	1	4	17	4	53	5	12	6
7	3	8	3	27	4	18	4	39	4	36	4	57	5	33	5	56	7
8	3	47	4	5	5	0	5	21	5	16	5	36	6	21	6	48	8
9	4	27	4	51	5	44	6	9	6	0	6	25	7	16	7	44	9
10	5	14	5	28	6	34	7	1	6	50	7	17	8	16	8	49	10
11	6	5	6	34	7	27	7	56	7	45	8	15	9	23	9	59	11
12	7	2	7	31	8	26	8	57	8	47	9	21	10	30	10	0	12
13	8	2	8	34	9	29	10	2	9	54	10	28	11	31			13
14	9	6	9	38	10	33	11	4	11	0	11	32	0	2	0	29	14
15	10	9	10	30	11	35					0	2	0	53	1	17	15
16	11	10	11	41	0	6	0	35	0	30	0	57	1	38	2	1	16
17			0	10	1	1	1	27	1	22	1	47	2	22	2	39	17
18	0	37	1	4	1	52	2	17	2	10	2	31	2	56	3	11	18
19	1	29	1	55	2	40	2	59	2	50	3	7	3	25	3	39	19
20	2	21	2	44	3	15	3	30	3	20	3	34	3	52	4	7	20
21	3	2	3	19	3	44	3	58	3	47	4	0	4	22	4	39	21
22	3	35	3	51	4	11	4	27	4	12	4	27	4	59	5	18	22
23	4	5	4	24	4	45	5	0	4	44	5	0	5	39	6	5	23
24	4	42	4	59	5	17	5	35	5	18	5	37	6	32	7	1	24
25	5	16	5	35	5	53	6	14	5	59	6	23	7	33	8	9	25
26	5	55	6	16	6	37	7	0	6	49	7	17	8	48	9	27	26
27	6	40	7	2	7	25	7	53	7	48	8	23	10	8	10	48	27
28	7	25	7	50	8	23	8	56	9	0	9	38	11	26			28
29	8	18	8	46	9	31	10	6	10	18	10	58	0	2	0	35	29
30	9	16	9	46	10	43	11	21	11	38			1	5	1	35	30
31	10	18	10	50					0	19	0	50	2	4	2	30	31

	Adding				h	m
For Fowey, Loo and Plymouth	—	—	—	—	3	10
Dartmouth, Harborough and Hull	—	—	—	—	3	30
Torbay and Tinmouth	—	—	—	—	3	40
Exmouth, Topsham and Lime	—	—	—	—	3	50
Weymouth	—	—	—	—	4	20
Bridgewater and Texel	—	—	—	—	4	40
Portland and Hartflw	—	—	—	—	5	50

Time of High-Water at LONDON in the morning and afternoon of every day in the year.

Mo. Days	SEPTEMBER				OCTOBER				NOVEMBER				DECEMBER				Mo. Days
	morn.		aftern.		morn.		aftern.		morn.		aftern.		morn.		aftern.		
	h	m	h	m	h	m	h	m	h	m	h	m	h	m	h	m	
1	2	50	3	8	3	13	3	29	4	8	4	25	4	18	4	36	1
2	3	26	3	42	3	47	4	3	4	44	5	5	4	53	5	10	2
3	3	59	4	15	4	23	4	43	5	25	5	44	5	28	5	46	3
4	4	34	4	55	5	3	5	22	6	7	6	31	6	6	6	29	4
5	5	15	5	37	5	45	6	10	6	55	7	19	6	51	7	13	5
6	6	2	6	29	6	35	7	3	7	44	8	12	7	37	8	2	6
7	6	55	7	23	7	30	8	0	8	40	9	7	8	30	8	57	7
8	7	53	8	25	8	28	8	57	9	35	10	3	9	27	9	59	8
9	8	57	9	31	9	27	9	57	10	30	10	58	10	29	11	0	9
10	10	2	10	33	10	25	10	52	11	27	11	56	11	34			10
11	11	3	11	31	11	20	11	48		0	20		0	8	0	38	11
12	11	57				0	13		0	50	1	16	1	8	1	39	12
13	0	22	0	46	0	36	1	1	1	42	2	9	2	9	2	35	13
14	1	8	1	31	1	24	1	48	2	36	2	58	2	59	3	21	14
15	1	52	2	14	2	12	2	33	3	18	3	38	3	39	3	59	15
16	2	30	2	53	2	54	3	12	3	55	4	17	4	16	4	36	16
17	3	8	3	24	3	29	3	46	4	37	5	0	4	59	5	21	17
18	3	39	4	9	4	3	4	24	5	21	5	46	5	43	6	7	18
19	4	9	4	27	4	45	5	8	6	12	6	40	6	33	7	0	19
20	4	4	5	10	5	31	6	0	7	9	7	38	7	26	7	56	20
21	5	33	6	0	6	28	6	58	8	8	8	40	8	26	8	58	21
22	6	25	6	59	7	29	8	2	9	12	9	45	9	31	10	4	22
23	7	32	8	8	8	36	9	11	10	18	10	50	10	37	11	10	23
24	8	47	9	25	9	46	10	15	11	22	11	52	11	42			24
25	10	3	10	38	10	52	11	25		0	22		0	12	0	41	25
26	11	13	11	47	11	57			0	51	1	18	1	9	1	35	26
27			0	20	0	26	0	54	1	46	2	11	2	1	2	26	27
28	0	49	1	16	1	21	1	47	2	35	2	56	2	45	3	2	28
29	1	44	2	9	2	13	2	38	3	14	3	30	3	18	3	32	29
30	2	33	2	54	3	3	3	15	3	57	4	1	3	46	4	0	30
31					3	33	3	50					4	15	4	30	31

Subtracting

h m

For Leigh, Maes, and Gouries Gut	—	—	—	—	0	5
Gravesend, Rochester, and Rammekins	—	—	—	—	1	20
Buoy of the Nore and Flushing	—	—	—	—	1	30
Portsmouth, Ostend, Shoe-Beacon, and Red-Sand	—	—	—	—	2	0
Harwich, Dover, Spithead, and Calais	—	—	—	—	3	0
Gunfleet, Hastings, Shoreham, Orfordness, and Diop	—	—	—	—	4	0
Yarmouth Pier and Needle	—	—	—	—	4	40
St. Helen's and Havre-de-Grace	—	—	—	—	5	30

IN the course of this year there will happen only two eclipses, viz. of the Sun, and none of the Moon. As follows:

I. June 4th, ☉ eclipsed, visible.

			h	m	
Beginning	—	—	7	24½	morning.
Middle	—	—	8	11	
End	—	—	9	0	

Digits eclipsed $3^{\circ} 59'$ on the Sun's southern limb.

The Moon makes the first impression on the Solar Disc at 96° from the Sun's vertex on the right hand.

II. Nov. 27th, ☉ eclipsed, invisible.

The conjunction at 6h. 10m. in longitude $8^{\circ} 6' 16''$; the moon's latitude $9'$ south.

The sun will be centrally eclipsed on the meridian at 6h 13m in longitude $93^{\circ} 15'$ west, and latitude $30^{\circ} \frac{1}{2}$ south.

Obliquity of the Ecliptic.				Equation of the Equi- noctial Points.		
Jan. 1.	23°	27'	59".4	-	-	+ 18".0
April 1.	23	27	58.5	-	-	+ 17. 8
July 1.	23	27	57.6	-	-	+ 17. 4
Oct. 1.	23	27	56.7	-	-	+ 17. 0
Dec. 31.	23	27	55.8	-	-	+ 16. 4

The Eclipses of Jupiter's

JANUARY	FEBRUARY	MARCH	APRIL
Emerfions	Emerfions	Emerfions	Emerfions
2 13 7 41	1 15 6 34	2 17 18 11	1 19 37 17
4 7 35 31	3 9 35 8	4 11 47 26	3 14 6 40
6 2 3 24	5 4 3 46	6 6 16 42	5 8 36 2
7 20 31 18	6 22 32 26	8 0 45 59	7 3 5 23
9 14 59 14	8 17 1 9	9 19 15 17	8 21 34 43
11 9 27 12	10 11 29 55	11 13 44 37	10 16 4 3
13 3 55 15	12 5 58 43	13 8 13 58	12 10 33 22
14 22 23 18	14 0 27 35	15 2 43 20	14 5 2 39
16 16 51 26	15 18 56 28	16 21 12 43	15 23 31 56
18 11 19 36	17 13 25 25	18 15 42 5	17 18 1 11
20 5 47 47	19 7 54 26	20 10 11 29	19 12 30 25
22 0 16 1	21 2 23 25	22 4 40 53	21 6 59 37
23 18 44 20	22 20 52 30	23 23 10 17	23 1 28 48
25 13 12 43	24 15 21 32	25 17 39 41	24 19 57 57
27 7 41 6	26 9 50 41	27 12 9 6	26 14 27 6
29 2 9 33	28 4 19 48	29 6 38 29	28 8 56 12
30 20 38 0	29 22 48 59	31 1 7 54	30 3 25 16
MAY	JUNE	JULY	AUGUST
Emerfions			Immerfions
1 21 54 18	The Eclipses of Jupiter's Satellites will not be visible this month, Jupiter being too near the Sun.	The Eclipses of the Satellites of Jupiter will not be visible this month, Jupiter being too near the Sun.	1 20 25 53
3 16 23 17			3 14 54 39
5 10 52 15			5 9 23 25
7 5 21 12			7 3 52 12
8 23 50 6			8 22 21 1
10 18 18 59			10 16 49 49
12 12 47 50			12 11 18 42
14 7 16 38			14 5 47 34
16 1 45 26			16 0 16 28
17 20 14 10			17 18 45 24
19 14 42 54			19 13 14 20
21 9 11 36			21 7 43 17
23 3 40 14			23 2 12 15
24 22 8 51			24 20 41 15
26 16 37 29			26 15 10 16
28 11 6 2			28 9 39 18
30 5 34 35			30 4 8 20
			31 12 37 22

first Satellite for 1788.

SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER
Immersion	Immersion	Immersion	Immersion
2 17 6 27	1 0 51 14	1 21 27 44	1 23 23 36
4 11 35 32	2 19 20 10	3 15 56 3	3 17 51 11
6 6 4 36	4 13 49 6	5 10 24 20	5 12 18 49
8 0 33 40	6 8 18 1	7 4 52 35	7 6 46 27
9 19 2 45	8 2 46 55	8 23 20 48	9 1 14 0
11 13 31 50	9 21 15 46	10 17 48 57	10 19 41 35
13 8 0 55	11 15 44 37	12 12 17 5	12 14 9 9
15 2 29 59	13 10 13 23	14 6 45 9	14 8 36 42
16 20 59 5	15 4 42 9	16 1 13 11	16 3 4 16
18 15 28 8	16 23 10 52	17 19 41 11	17 21 31 48
20 9 57 11	18 17 39 34	19 14 9 7	19 15 59 20
22 4 26 14	20 12 8 13	21 8 37 1	21 10 26 51
23 22 55 16	22 6 36 50	23 3 4 52	23 4 54 23
25 17 24 17	24 1 5 25	24 21 32 40	24 23 21 54
27 11 53 17	25 19 33 58	26 16 0 27	26 17 49 27
29 6 22 17	27 14 2 27	28 10 28 10	28 12 17 2
	29 8 30 56	30 4 55 52	30 6 44 34
	31 2 59 21		

The Times of the Eclipses contained in this Table, are adapted to the Meridian of the Royal Observatory at Greenwich, and afford an excellent Method to discover the Longitude, or Difference of Meridians, between that and any other Place; which I shall illustrate by an EXAMPLE:

Suppose on the 28th Day of December of this Year, the Time of the Emergence of Jupiter's first Satellite be observed (by a Telescope) in an unknown Meridian, to happen at 14 h. 5 min. 22 sec. at night; I find by the Table, that the Time of this Emergence will happen at the British Observatory, at 12 h. 17 min. 2 sec. the same day: The Difference of the Times is 1 hour 48 min. 20 sec. which being converted into Degrees and Minutes of the Equator, will make 27 deg. 5 min. the Longitude of the Place of Observation, to the East, because the Time is more than that at the British Observatory.

Speculum Phænomenorum

JANUARY		FEBRUARY		MARCH	
6	☾ in perigeo	2	☾ in perigeo	4	☿ in perihelio
6	♂ ☿ ☾ 2h.	6	♂ ☿ ☾ 10h.	6	♂ ♀ ☾ 7h.
7	♂ ☿ ☾ 9h.	7	♂ ♀ ☾ 18h.	7	☐ ☿ ☾ 1h.
9	♂ ♀ ☾ 20h.	9	♂ ♀ ☾ 4h.	9	♂ ☿ ☾ 0h.
9	☿ in ☿	10	☾ stationary	10	♂ ♀ ☾ 7h.
11	♂ ♀ ☾ 6h.	11	♂ ☿ ☿ 17h.	10	♀ in ☿
19	♂ ☾ ☾ 14h.	15	♂ ☾ ☾ 21h.	10	☿ elong. max.
19	☉ in ☿ 18h. 48m.	16	♂ stationary	14	♂ ☾ ☾ 5h.
20	☿ in aphelio	16	☾ in apogeo	14	☾ in apogeo
20	☾ in apogeo	17	♂ ☿ ☾ 9h.	15	♂ ☿ ☾ 23h.
21	♂ ☿ ☾ 6h.	18	☉ in ☿ 9h. 38m.	17	☿ stationary
		19	♂ ☿ ☾ 20h.	19	☉ in ♀ 10h. 3m.
		28	☿ in ☿	25	♂ ☿ ☿ 23h.
		29	☾ in perigeo	27	☾ in perigeo
APRIL		MAY		JUNE	
2	♂ ♀ ☾ 21h.	3	♂ ☿ ☾ 15h.	3	☉ eclipsed, visible
4	♂ ☿ ☾ 17h.	7	☾ in apogeo	4	☾ in apogeo
6	☿ in ☿	8	♂ ☾ ☾ 9h.	4	♂ ☿ ☾ 7h.
9	♂ ♀ ☾ 4h.	8	♂ ♀ ☾ 19h.	5	♂ ☾ ☾ 3h.
9	☿ stationary	11	♂ ☿ ☾ 2h.	7	♂ ♀ ☾ 3h.
10	♂ ☾ ☾ 17h.	19	☉ in ☿ 23h. 21m.	8	♂ ☿ ☾ 10h.
10	♀ in perihelio	21	☾ in perigeo	7	☾ in ☿
10	☾ in apogeo	27	♂ ♀ ☾ 23h.	17	☾ in perigeo
11	☐ ☿ ☿ 12h.	27	☿ in ☿	19	☿ stationary
12	♂ ☿ ☾ 22h.	30	♂ ☿ ☿ 14h.	20	☉ in ☿ 8h. 2m.
13	♂ in aphelio	30	♀ elong. max.	24	♂ ♀ ☾ 2h.
18	☉ in ☿ 22h. 47m.	31	☿ in perihelio	29	♂ ☿ ☾ 3h.
22	☿ elong. max.	31	☐ ☿ ☾ 2h.	30	♀ in ☿
23	☾ in perigeo				
30	♂ ♀ ☾ 11h.				

ad Annum 1788.

JULY		AUGUST		SEPTEMBER	
1	☾ in apogeo	1	♂ ☿ ☾ 13h.	2	♂ ☿ ☾ 5h.
3	♂ ☿ ☾ oh.	2	♂ ☿ ☾ 2h.	6	☾ in perigeo
3	☿ in ☿	4	♂ ☿ ☾ 12h.	13	♂ ☿ ☾ 16h.
4	☿ elong. max.	7	♂ ☿ ☿ 13h.	14	♂ ☿ ☿ 10h.
5	♂ ☿ ☾ 1h.	10	☾ in perigeo	21	☾ in apogeo
5	♂ ☿ ☾ 19h.	12	☿ stationary	21	☉ in ☿ 21h. 42m.
6	♂ ☿ ☾ 21h.	17	♂ ☿ ☾ 14h.	24	♂ ☿ ☾ 7h.
14	☿ in aphelio	19	☿ elong. m. x.	25	♂ ☿ ☾ 21h.
14	☾ in perigeo	22	☿ in ☿	27	♂ in ☿
17	☿ stationary	22	☉ in ☿ 1h. 14m.	30	♂ ☿ ☾ oh.
20	☿ stationary	25	☾ in apogeo	30	☿ in ☿
21	♂ ☿ ☾ 11½h.	27	♂ ☿ ☾ 14½h.		
21	☉ in ☿ 18h. 53m.	27	☿ in perihelio		
28	☾ in apogeo	28	♂ ☿ ☾ 18h.		
30	♂ ☿ ☾ 20h.	29	♂ ☿ ☾ 18h.		
31	☿ in aphelio	29	♂ ☿ ☿ 22h.		
		29	☿ stationary		
OCTOBER		NOVEMBER		DECEMBER	
1	♂ ☿ ☾ 1h.	6	☿ stationary	4	♂ ☿ ☾ 13½h.
3	☾ in perigeo	7	♂ ☿ ☾ 4h.	10	☿ elong. max.
10	☿ in aphelio	11	☿ stationary	11	☾ in apogeo
10	♂ ☿ ☾ 21h.	14	☾ in apogeo	15	♂ ☿ ☾ oh.
18	☾ in apogeo	16	☿ stationary	20	☉ in ☿ 14h. 14m.
19	☿ elong. max.	18	☿ in ☿	23	♂ ☿ ☾ 16h.
21	☿ in ☿	18	♂ ☿ ☾ 1h.	24	☾ in perigeo
21	☉ ☿ ☿ 3h.	20	☉ ☿ ☿ 21h.	25	♂ ☿ ☾ 14h.
21	♂ ☿ ☾ 18h.	21	☉ in ☿ 1h. 52m.	27	☿ in ☿
22	☉ in ☿ 5h. 39m.	23	☿ in perihelio	27	♂ ☿ ☾ oh.
25	♂ ☿ ☾ 2h.	23	♂ ☿ ☾ 18h.	27	♂ ☿ ☾ 17h.
29	♂ ☿ ☾ 21h.	25	☉ ☿ ☿ 15h.		
30	♂ ☿ ☾ 13h.	26	♂ ☿ ☾ 7h.		
31	☿ elong. max.	27	♂ ☿ ☾ 21h.		
31	☾ in perigeo	27	☉ eclipsed, invisible		
		27	☾ in perigeo		
		30	☿ in perihelio		
		30	☿ stationary		

A Table of the Sun's semi-diurnal Arches, or Times

The Sun's Declination North.

Degr.	Lat. 49	Lat. 50	Lat. 51	Lat. 52	Lat. 53	Lat. 54
	h m	h m	h m	h m	h m	h m
0	6 4	6 4	6 4	6 4	6 4	6 4
1	6 8	6 8	6 8	6 9	6 9	6 9
2	6 12	6 13	6 13	6 14	6 14	6 15
3	6 17	6 18	6 18	6 19	6 19	6 20
4	6 22	6 22	6 22	6 24	6 25	6 25
5	6 26	6 27	6 27	6 29	6 30	5 31
6	6 31	6 32	6 33	6 34	6 36	6 37
7	6 36	6 37	6 38	6 40	6 41	6 43
8	6 41	6 42	6 43	6 45	6 47	6 48
9	6 45	6 47	6 48	6 50	6 52	6 54
10	6 50	6 52	6 54	6 56	6 58	7 0
11	6 55	6 57	6 59	7 1	7 3	7 6
12	7 0	7 2	7 4	7 7	7 9	7 12
13	7 5	7 7	7 10	7 12	7 15	7 18
14	7 10	7 13	7 15	7 18	7 21	7 24
15	7 15	7 18	7 21	7 24	7 27	7 31
16	7 21	7 24	7 27	7 30	7 33	7 37
17	7 26	7 29	7 33	7 36	7 40	7 44
18	7 31	7 35	7 38	7 42	7 46	7 51
19	7 37	7 41	7 45	7 49	7 53	7 58
20	7 43	7 47	7 51	7 55	8 0	8 5
21	7 49	7 53	7 57	8 2	8 7	8 12
22	7 55	7 59	8 4	8 9	8 14	8 20
23	8 1	8 6	8 11	8 16	8 22	8 28
24	8 7	8 12	8 18	8 24	8 30	8 36

By these Tables the Times of the Sun's Rising and Setting may be found, in any Part of the Kingdom of *Great-Britain* or *Ireland*, after the following Manner: Where the Latitude of the Place is known, take the Sun's Declination out of the Table, on the Noon of the Day you desire to know the Time of his Rising and Setting; and with it, according as it is either North or South, enter these Tables in the

Left.

of his visible half Duration above the Horizon.

The Sun's Declination South.

Degr.	Lat. 49		Lat. 50		Lat. 51		Lat. 52		Lat. 53		Lat. 54	
	h	m	h	m	h	m	h	m	h	m	h	m
0	6	4	6	4	6	4	6	4	6	4	6	4
1	5	59	5	59	5	58	5	58	5	58	5	58
2	5	54	5	54	5	53	5	53	5	53	5	53
3	5	49	5	49	5	49	5	48	5	48	5	47
4	5	45	5	44	5	44	5	43	5	42	5	42
5	5	40	5	39	5	39	5	38	5	37	5	36
6	5	35	5	35	5	34	5	33	5	31	5	30
7	5	31	5	30	5	29	5	27	5	26	5	25
8	5	26	5	25	5	23	5	22	5	21	5	19
9	5	21	5	20	5	18	5	17	5	16	5	13
10	5	17	5	15	5	13	5	11	5	10	5	8
11	5	12	5	10	5	8	5	6	5	4	5	2
12	5	7	5	5	5	3	5	0	4	58	4	56
13	5	2	5	0	4	57	4	55	4	52	4	50
14	4	57	4	54	4	52	4	49	4	47	4	44
15	4	52	4	49	4	46	4	44	4	41	4	37
16	4	46	4	45	4	41	4	38	4	34	4	31
17	4	41	4	38	4	35	4	32	4	28	4	23
18	4	36	4	33	4	29	4	26	4	22	4	18
19	4	30	4	27	4	23	4	19	4	15	4	11
20	4	25	4	21	4	17	4	13	4	9	4	4
21	4	19	4	15	4	11	4	6	4	2	3	57
22	4	13	4	9	4	4	4	0	3	55	3	50
23	4	7	4	3	3	58	3	53	3	47	3	42
24	4	1	3	56	3	51	3	46	3	40	3	34

Left-hand Column, under the Word Degrees; then look the Latitude of the Place in the Top of the Table; and in that Column, against the Sun's Declination, will be found the Time of his visible half Duration above the Horizon, or Time of his Setting, correct by Refraction; then subtract the Time of his Setting from 12 Hours, the Remainder will be the Time of his Rising; double the Time of his Setting, the

A Table of the Sun's semi-diurnal Arches, or Times

The Sun's Declination North.

Degr.	Lat. 55		Lat. 56		Lat. 57		Lat. 58		Lat. 59		Lat. 60	
	h	m	h	m	h	m	h	m	h	m	h	m
0	6	4	6	4	6	4	6	4	6	4	6	4
1	6	9	6	10	6	10	6	10	6	11	6	11
2	6	15	6	16	6	16	6	17	6	17	6	18
3	6	21	6	22	6	22	6	23	6	24	6	25
4	6	27	6	28	6	29	6	30	6	31	6	32
5	6	32	6	34	6	35	6	36	6	38	6	39
6	6	38	6	40	6	41	6	43	6	44	6	46
7	6	44	6	46	6	48	6	49	6	51	6	53
8	6	50	6	52	6	54	6	56	6	58	7	1
9	6	56	6	58	7	1	7	3	7	5	7	8
10	7	2	7	5	7	7	7	10	7	13	7	16
11	7	8	7	10	7	14	7	17	7	20	7	23
12	7	15	7	18	7	21	7	31	7	27	7	31
13	7	21	7	24	7	28	7	31	7	35	7	39
14	7	28	7	31	7	35	7	39	7	43	7	47
15	7	34	7	39	7	42	7	46	7	51	7	56
16	7	41	7	45	7	49	7	54	7	59	8	4
17	7	48	7	52	7	57	8	1	8	7	8	13
18	7	55	8	0	8	5	8	10	8	16	8	22
19	8	2	8	7	8	13	8	19	8	25	8	32
20	8	10	8	15	8	21	8	28	8	35	8	42
21	8	18	8	24	8	30	8	37	8	45	8	53
22	8	26	8	32	8	39	8	47	8	55	9	4
23	8	34	8	41	8	49	8	57	9	6	9	16
24	8	43	8	51	8	59	9	8	9	18	9	29

the Sum will be the Length of the Day ; and double the Time of his Rising, the Sum will be the Length of the Night. But if the Latitude of the Place, and Declination of the Sun, consist of Degrees and Minutes, then a small Allowance must be made for the Minutes in both Cases, which may be done by a Person of an ordinary Capacity by a mental Proportion only. Thus, to find the Time of the Sun's Rising and Setting at

of his visible half Duration above the Horizon.

The Sun's Declination South.

Degr.	Lat. 55		Lat. 56		Lat. 57		Lat. 58		Lat. 59		Lat. 60	
	h	m	h	m	h	m	h	m	h	m	h	m
0	6	4	6	4	6	4	6	4	6	4	6	4
1	5	58	5	58	5	58	5	58	5	57	5	57
2	5	52	5	52	5	52	5	51	5	51	5	50
3	5	47	5	46	5	45	5	45	5	44	5	43
4	5	41	5	40	5	39	5	38	5	37	5	36
5	5	35	5	34	5	33	5	32	5	31	5	29
6	5	29	5	28	5	27	5	25	5	24	5	22
7	5	23	5	22	5	20	5	19	5	17	5	15
8	5	17	5	16	5	14	5	12	5	10	5	8
9	5	12	5	10	5	8	5	5	5	3	5	2
10	5	5	5	3	5	1	4	59	4	56	4	53
11	4	59	4	57	4	54	4	52	4	49	4	46
12	4	53	4	51	4	48	4	45	4	42	4	38
13	4	47	4	44	4	41	4	38	4	34	4	30
14	4	41	4	37	4	34	4	30	4	27	4	23
15	4	34	4	31	4	27	4	23	4	19	4	14
16	4	27	4	24	4	20	4	15	4	11	4	6
17	4	21	4	17	4	12	4	8	4	3	3	57
18	4	14	4	9	4	5	4	0	3	54	3	48
19	4	7	4	2	3	56	3	51	3	45	3	39
20	3	59	3	54	3	49	3	43	3	36	3	29
21	3	52	3	46	3	40	3	34	3	27	3	19
22	3	44	3	38	3	31	3	24	3	17	3	9
23	3	36	3	29	3	23	3	15	3	6	2	57
24	3	27	3	20	3	13	3	5	2	55	2	45

at Aberdeen in Scotland, on the Longest Day; the Latitude of that Place is accounted 57 Degr. 7 Min. North, and the Sun's Declination 23 Degr. 28 Min. likewise North. By these you will find by the Table, that 5 Min. for the Sun's Declination, and 1 Min. for the Latitude of the Place, are both, to be added to 8 Hours 49 Min. the Time belonging to 57 Degr. of Latitude and 23 Degr. of North Declination, and the Sum will be 8 Hours 55 Min. the Time of his apparent Setting at Aberdeen, on the longest Day, whose Complement to 12 Hours, viz. 3 Hours 5 Min. will be the Time of his Rising, &c.

A Table of the Sun's Right-Ascension in Time, the greatest

Dege	♈			♉			♊			♋			♌			♍		
	h	m	s	h	m	s	h	m	s	h	m	s	h	m	s	h	m	s
0	0	0	0	1	51	37	3	51	15	6	0	0	8	8	45	10	8	23
1	0	3	40	1	55	27	3	55	25	6	4	22	8	12	54	10	12	12
2	0	7	20	1	59	17	3	59	36	6	8	43	8	17	3	10	16	0
3	0	11	0	2	3	8	4	3	48	6	13	5	8	21	11	10	19	48
4	0	14	41	2	6	59	4	8	0	6	17	26	8	25	19	10	23	35
5	0	18	21	2	10	51	4	12	13	6	21	48	8	29	26	10	27	22
6	0	22	2	2	14	44	4	16	26	6	26	9	8	33	31	10	31	8
7	0	25	42	2	18	37	4	20	40	6	30	30	8	37	37	10	34	54
8	0	29	23	2	22	31	4	24	55	6	34	51	8	41	41	10	38	40
9	0	33	4	2	26	25	4	29	10	6	39	11	8	45	45	10	42	25
10	0	36	45	2	30	20	4	33	26	6	43	31	8	49	48	10	46	9
11	0	40	26	2	34	16	4	37	42	6	47	51	8	53	51	10	49	53
12	0	44	8	2	38	13	4	41	59	6	52	11	8	57	52	10	53	37
13	0	47	50	2	42	10	4	46	16	6	56	31	9	1	53	10	57	20
14	0	51	32	2	46	8	4	50	34	7	0	50	9	5	53	11	1	3
15	0	55	14	2	50	7	4	54	52	7	5	8	9	9	53	11	4	46
16	0	58	5	2	54	7	4	59	10	7	9	26	9	13	52	11	8	28
17	1	2	40	2	58	7	5	3	29	7	13	44	9	17	50	11	12	10
18	1	6	23	3	2	8	5	7	49	7	18	1	9	21	47	11	15	52
19	1	10	7	3	6	9	5	12	9	7	22	18	9	25	44	11	19	34
20	1	13	51	3	10	12	5	16	29	7	26	34	9	29	40	11	23	15
21	1	17	35	3	14	15	5	20	49	7	30	50	9	33	35	11	26	56
22	1	21	20	3	18	19	5	25	9	7	35	5	9	37	29	11	30	37
23	1	25	6	3	22	23	5	29	30	7	39	20	9	41	23	11	34	18
24	1	28	52	3	26	29	5	33	51	7	43	34	9	45	16	11	37	58
25	1	32	38	3	30	35	5	38	12	7	47	47	9	49	9	11	41	39
26	1	36	25	3	34	41	5	42	34	7	52	0	9	53	1	11	45	19
27	1	40	12	3	38	49	5	46	55	7	56	12	9	56	52	11	49	0
28	1	44	0	3	42	57	5	51	17	8	0	24	10	0	43	11	52	40
29	1	47	48	3	47	6	5	55	38	8	4	35	10	4	33	11	56	20
30	1	51	37	3	51	15	6	0	0	8	8	45	10	8	23	12	0	0

The time of the southing or meridian transits of the fixed stars in pa. 46, may be found thus. On the noon of the day, preceding the night in which you want to know the time of the southing of any of those stars, find the Sun's place in the Ephemeris, and with it take out of the above table his right ascension in time; this you may do by inspection to a minute, which will be sufficient for your present purpose: Then from the right-ascension of the star in pa. 46, subtract the right-ascension of the Sun, the remainder will be the estimate time of the star's southing, and will not differ from the true time above 2 or 3 minutes at most, which may be near enough for ordinary uses. But when great exactness is required, reduce the Sun's place to this estimate time, and with it find in the above table his right ascension to seconds, which being subtracted from that of the star, the remainder will be the

Obliquity of the Ecliptic being $23^{\circ} 28'$.

Decl.	α			μ			$\uparrow$			$\downarrow$			$\sim$			$\times$		
	h	m	s	h	m	s	h	m	s	h	m	s	h	m	s	h	m	s
0	12	0	0	13	51	37	15	51	15	18	0	0	20	8	45	22	8	23
1	12	3	40	13	55	27	15	55	25	18	4	22	20	12	54	22	12	12
2	12	7	20	13	59	17	15	59	36	18	8	43	20	17	3	22	16	0
3	12	11	0	14	3	8	16	3	48	18	13	5	20	21	11	22	19	48
4	12	14	41	14	6	59	16	7	0	18	17	26	20	25	19	22	23	35
5	12	18	21	14	10	51	16	12	13	18	21	48	20	29	26	22	27	22
6	12	22	2	14	14	44	16	16	26	18	26	9	20	33	31	22	31	8
7	12	25	42	14	18	37	16	20	40	18	30	30	20	37	37	22	34	54
8	12	29	23	14	22	31	16	24	55	18	34	51	20	41	41	22	38	40
9	12	33	4	14	26	25	16	29	10	18	39	11	20	45	45	22	42	25
10	12	36	45	14	30	20	16	33	26	18	43	31	20	49	48	22	46	9
11	12	40	26	14	34	16	16	37	42	18	47	51	20	53	51	22	49	53
12	12	44	8	14	38	13	16	41	59	18	52	11	20	57	52	22	53	37
13	12	47	50	14	42	10	16	46	16	18	56	31	21	1	53	22	57	20
14	12	51	32	14	46	8	16	50	34	19	0	50	21	5	53	23	1	3
15	12	55	14	14	50	7	16	54	52	19	5	8	21	9	53	23	4	46
16	12	58	57	14	54	7	16	59	10	19	9	26	21	13	52	23	8	28
17	13	2	40	14	58	7	17	3	29	19	13	44	21	17	50	23	12	10
18	13	6	23	15	2	8	17	7	49	19	18	1	21	21	47	23	15	52
19	13	10	7	15	6	9	17	12	9	19	22	18	21	25	44	23	19	34
20	13	13	51	15	10	12	17	16	29	19	26	34	21	29	40	23	23	15
21	13	17	35	15	14	15	17	20	49	19	30	50	21	33	35	23	26	56
22	13	21	20	15	18	19	17	25	9	19	35	5	21	37	29	23	30	37
23	13	25	6	15	22	23	17	29	30	19	39	20	21	41	23	23	34	18
24	13	28	52	15	26	29	17	33	51	19	43	34	21	45	16	23	37	58
25	13	32	38	15	30	35	17	38	12	19	47	47	21	49	9	23	41	39
26	13	36	25	15	34	41	17	42	34	19	52	0	21	53	1	23	45	19
27	13	40	12	15	38	49	17	46	55	19	56	12	21	56	52	23	49	0
28	13	44	0	15	42	57	17	51	17	20	0	24	22	0	43	23	52	40
29	13	47	48	15	47	6	17	55	38	20	4	35	22	4	33	23	56	20
30	13	51	37	15	51	15	18	0	0	20	8	45	22	8	23	24	0	0

the true time of the star's culmination or southing. And if from the time of the star's southing you subtract the semidiurnal arc belonging to it, the remainder will be the time of the star's rising; and being added to it, the sum will be the time of its setting.

Annexed is an Ex. of SIRIUS for Jan. 31, 1788.

	h	m	s
☉'s place at noon $11^{\circ} 24'$			
Rt. Asc. of Sirius -	6	35	33
☉'s rt. asc. subtract -	20	55	27
*'s estimate southing -	9	40	6
☉'s rt. asc. at that time sub.	20	57	20
*'s true southing -	9	38	13
Semid. arc sub. & add -	4	36	55
*'s rising aftern. -	5	1	18
*'s setting -	14	15	8

A Table of the mean Right-Ascensions in time, Semidurnal-Arcs, Declinations, and Magnitudes of 40 remarkable fixed Stars, with their Names, and Bayer's Literal Characters, for January 1, 1782.

Names of the Stars	Ch.	Rt. Asc.			Declination			Semid. Ar.			Ma	
		h	m	s	o	'	"	h	m	s		
Pole star, Alruccabah -	α	0	48	3	88	8	36	n	sets	not	2	
Andromeda's girdle, Mirach -	β	0	57	36	34	27	35	n	10	7	32	2
Andromeda's left foot, Almach -	γ	1	50	36	41	16	30	n	sets	not	2	
Ram's following horn -	α	1	54	56	22	25	27	n	8	9	35	2
Whale's jaw, Menkar -	α	2	50	54	3	13	26	n	6	19	48	2
Medusa's head, Algol -	β	2	54	4	40	6	6	n	sets	not	2	
Perseus's right side, Algenib -	α	3	8	51	49	4	11	n	sets	not	2	
Brightest of the 7 stars -	α	3	34	34	23	25	2	n	8	16	40	3
Bull's south eye, Aldebaran -	α	4	23	26	16	3	23	n	7	28	51	1
Auriga's left shoulder, Capella -	α	5	0	37	45	44	59	n	sets	not	1	
Orion's left foot, Rigel -	β	5	4	4	8	28	3	s	5	20	28	1
Bull's north horn -	β	5	12	32	28	24	22	n	8	57	1	2
Orion's left shoulder, Bellatrix -	γ	5	13	27	6	8	10	n	6	34	41	2
Orion's girdle -	α	5	25	10	1	21	24	s	5	56	42	2
Orion's right shoulder, Betelgeuse -	α	5	43	23	7	20	59	n	6	40	58	1
In the great Dog's mouth, Sirius -	α	6	35	33	16	25	14	s	4	36	55	1
Head of the 1st Twin, Castor -	α	7	20	41	32	20	54	n	9	38	21	1
In the less Dog's thigh, Procyon -	α	7	27	54	5	46	41	n	6	32	50	1
Head of the 2d Twin, Pollux -	β	7	31	59	28	32	14	n	8	58	13	2
Hydra's heart, Alphard -	α	9	16	53	7	43	21	s	5	24	20	2
Lion's heart, Regulus -	α	9	56	45	13	1	32	n	7	11	28	1
Great Bear, Lower Pointer -	β	10	48	34	57	32	47	n	sets	not	2	
Great Bear, Upper Pointer -	α	10	50	8	62	55	27	n	sets	not	2	
Lion's tail, Deneb -	β	11	37	56	15	47	28	n	7	27	18	2
Great Bear, 1st in the tail, Aliath -	α	12	44	22	57	8	46	n	sets	not	2	
Virgius's spike -	α	13	13	44	10	1	2	s	5	12	20	1
Dragon's tail -	α	13	58	30	65	25	19	n	sets	not	2	
Bootes, Arcturus -	α	14	5	46	20	20	5	n	7	55	26	1
Libra, Southern Scale -	α	14	38	52	15	7	26	s	4	44	23	2
Libra, Northern Scale -	β	15	5	18	8	33	59	s	5	19	57	2
Bright star in the North Crown -	α	15	25	28	27	27	35	n	8	48	36	2
Scorpion's heart, Antares -	α	16	16	4	25	55	50	s	3	34	6	1
Hercules's head, Ras. Algethi -	α	17	4	43	14	39	8	n	7	20	41	2
Head of Serpentarius -	α	17	24	49	12	44	2	n	7	9	50	2
Dragon's head, Rastaban -	γ	17	51	34	51	31	19	n	sets	not	2	
Bright star in the Harp, Lyra -	α	18	29	33	38	35	19	n	sets	not	1	
Bright star in the Eagle, Atair -	α	19	40	8	8	18	10	n	6	45	57	2
Mouth of south Fish, Fomalhaut -	α	22	45	34	30	46	17	s	2	52	6	1
Pegasus's wing, Markab -	α	22	53	55	14	2	8	n	7	17	10	2
Andromeda's head -	α	23	57	9	27	53	2	n	8	52	19	2

A Table of the Longitudes, Latitudes, and Magnitudes of the most remarkable fixed Stars that the Moon can Eclipse, or make a near Appulse unto; exactly rectified to the beginning of the year 1780.

Con.	Cha.	Long.	Lat.	Magn.	Con.	Cha.	Long.	Lat.	Magn.
X	♈	♈ 11 4 48	♈ 9 44 n	4	♈	♈ 12 1 6	♈ 21 48 n	2	
	♈	14 28 2	1 5 37 n	4		12 17 56 14	1 49 14 s	3	
	♈	16 48 2	0 13 11 s	4		22 3 46	4 24 41 n	3	
♈	♈	17 46 21	1 48 7 n	4		24 18 10	4 2 52 n	4	
	♈	26 55 21	4 1 36 n	3		24 41 24	0 1 1 n	4	
	♈	2 43 37	5 45 30 s	3		26 47 49	3 29 24 n	4	
	♈	5 23 14	2 35 37 s	3		27 24 23	0 6 53 n	4	
	♈	6 42 57	5 29 3 s	1	♈	29 30 5	1 57 17 s	3	
	♈	19 30 14	5 21 59 n	2		29 52 12	5 26 15 s	3	
	♈	21 42 52	2 13 29 s	3		♈ 0 7 10	1 2 18 n	2	
♈	♈	20 22 14	0 55 4 s	4		1 34 27	1 39 52 n	4	
	♈	2 13 39	0 50 34 s	3		4 43 50	4 0 23 s	4	
	♈	5 1 57	6 46 12 s	2		6 41 35	4 32 17 s	1	
	♈	6 52 7	2 2 28 n	3		8 23 19	6 5 21 s	4	
	♈	15 27 6	0 12 19 s	3		28 11 40	6 56 48 s	3	
	♈	20 11 11	6 40 4 n	1		♈ 0 8 35	2 22 24 n	4	
♈	♈	4 28 28	3 10 22 n	4		3 15 8	2 5 31 s	4	
	♈	5 38 46	0 4 13 n	4		7 6 25	3 55 22 s	3	
♈	♈	18 35 0	3 1 57 s	4		9 18 54	3 24 55 s	3	
	♈	21 11 15	3 46 1 s	4		11 46 9	5 2 33 s	3	
	♈	24 50 0	4 51 9 n	4		11 55 13	0 53 36 n	3	
	♈	26 46 26	0 27 27 n	1		13 10 58	1 28 7 n	4	
	♈	3 19 2	0 8 29 n	4		♈ 0 58 32	4 36 46 n	3	
	♈	18 26 24	0 31 21 s	4		17 7 37	4 57 31 s	4	
	♈	21 58 9	3 2 51 s	4		18 42 30	2 32 6 s	4	
♈	♈	24 2 24	0 41 36 n	3		20 27 42	2 33 40 s	3	
	♈	0 17 47	5 4 43 n	3		25 38 54	2 3 47 s	4	
	♈	1 45 53	1 22 24 n	3		♈ 0 11 19	2 43 22 n	4	
	♈	7 6 18	8 48 57 n	3		8 30 20	0 22 57 s	4	
	♈	20 46 27	2 2 11 s	1		14 4 16	1 2 8 s	4	

This table shewing the mean longitudes of 60 stars to the beginning of the year 1780, their mean longitudes for any other time may be found if $50\frac{1}{2}$ seconds be added for each succeeding, and subtracted for each preceding year, and proportionably for a part of a year. Thus, to find the longitude of the first star ♈♈, or ♈ piscium, for Feb. 15, 1782, or 2 years and one eighth after the tabular time; here $2\frac{1}{8}$ times $50\frac{1}{2}$ sec. make $1^{\circ} 47'$, which being added to the tabular longitude, gives ♈ 11° 6' 35" for the longitude required at the given time.—The latitudes vary not.

The Latitudes and Longitudes of Ninety Place.

	Lat.	Long.		Lat.	Long.
Alexandria, Egypt	31 11 n	30 17 e	Ispahan	32 25 n	52 55 e
Amsterdam, Hol.	52 23 n	4 52 e	Land's end	50 6 n	5 50 w
Archangel, Ruf.	64 34 n	38 30 e	Leghorn	43 33 n	10 25 e
Athens	37 40 n	23 52 e	Leoftoff	52 38 n	1 54 e
Babelmandel	12 50 n	43 50 e	Leverpool	53 22 n	3 10 w
Batavia	6 12 s	106 45 e	Lima	12 18 s	76 50 w
Bengal	22 0 n	92 45 e	Lisbon	38 42 n	9 4 w
Berlin	52 33 n	13 26 e	Lizard	49 57 n	5 21 w
Bombay Isle	19 42 n	73 3 e	London	51 31 n	0 0
Boston, Amer.	42 25 n	70 37 w	Madras	13 8 n	80 7 e
Bresslau	51 3 n	17 13 e	Madrid	40 25 n	3 45 w
Brest	48 23 n	4 30 w	Manila	14 30 n	120 2 e
Bristol	51 28 n	2 30 w	Marseilles	43 18 n	5 21 e
Buenos Ayres	34 35 s	58 0 w	Mexico	19 54 n	100 5 w
Cadiz	36 31 n	6 7 w	Mississipi, mouth	29 0 n	89 17 w
Calais	50 58 n	1 51 e	Moscow	55 25 n	37 51 e
Cairo, Egypt	30 2 n	31 26 e	Naples	40 51 n	14 19 e
Cambridge	52 13 n	0 4 e	Newcastle	55 0 e	1 18 w
Canaria Islands	28 1 n	15 0 w	Oporto	41 53 n	8 35 w
Canton	23 8 n	113 2 e	Orkney Islands	59 24 n	3 23 w
Cape of Goodhope	34 29 s	18 23 e	Oxford	51 45 n	1 16 w
Cape Horn	55 59 s	67 26 w	Paris	48 50 n	2 25 e
Carthegena	10 27 n	75 26 w	Pekin	39 55 n	116 22 e
Charles Town Am.	33 22 n	79 50 w	Petersburg	59 56 n	30 19 e
Constantinople	41 0 n	28 53 e	Philadelphia	39 57 n	75 18 w
Copenhagen	55 41 n	12 50 e	Plymouth	50 24 n	4 15 w
Corinth	37 30 n	23 0 e	Port Mahon	39 51 n	3 53 e
Corke	51 54 n	8 30 w	Port Royal, Jam.	17 40 n	76 37 w
Dantzic	54 22 n	18 36 e	Portsmouth	50 48 n	1 1 w
Dover	51 7 n	1 19 e	Prague	50 5 n	14 15 e
Dublin	53 12 n	6 55 w	Quebec	46 55 n	71 12 w
Edinburgh	55 58 n	3 1 w	Rome	41 54 n	12 32 e
Ferro, Isle	27 48 n	18 6 w	Scilly Isles	50 0 n	6 45 w
Finisterre, Cape	42 57 n	9 36 w	Smyrna	38 28 n	27 25 e
Genoa	44 25 n	8 41 e	Stockholm	59 22 n	18 12 e
Gibraltar	36 5 n	4 46 w	Syracuse	37 4 n	15 20 e
Glasgow	55 52 n	4 5 w	Tangier	35 55 n	5 45 w
Goa	15 31 n	73 50 e	Teneriff	28 16 n	16 32 w
Gottingen	51 32 n	9 58 e	Tunis	36 47 n	10 16 e
Greenwich	51 29 n	0 5 e	Turin	45 5 n	7 45 e
Hacluit's Head.	79 55 n	12 0 e	Venice	45 27 n	12 24 e
Halifax, America	44 46 n	63 20 w	Verd, Cape	14 47 n	17 28 w
Havanna	23 12 n	81 11 w	Vienna	48 11 n	16 28 e
Holena, I. St.	15 55 s	5 49 w	Upfal	59 52 n	17 43 e
Jerusalem	31 50 n	35 25 e	Uraniberg	55 54 n	12 52 e

F I N I S.

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